The Green Sprout Journey

Exploring Home-based, Ecological Activities with Children

SATOKO CHATTERJEE

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Pallavi
June 2015

from Sujit

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Earthcare Books

THE GREEN SPROUT JOURNEY
by Satoko Chatterjee

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To my children, Shantonu and Manosi –

who are the real creators of this book

Contents

Acknowledgments ix

Part I Sowing Ideas: Notes from Chandernagore

In the Beginning 2

Here Comes Green Sprout! 13

Green Sprout Spreads Out 23

Green Sprout Keeps Experimenting 33

Green Sprout on a New Journey 49

Part II Harvesting Ideas: Activities of Green Sprout

Gardening 62

The Home Garden/Preparing a Vegetable Bed/
Circle Garden/Sheet Mulch Bed/
Rooftop Gardens/Container Gardens/
Suitable Plants for Home Garden/
Sowing, Seedlings, and Propagation/
Seed Storage/Composting/Vermi-compost/
Making Small-Scale Ponds/
Gardening as a Learning Opportunity

Eco-crafting 94

Thinking about Ecological Craft Ideas/
Garden Crafts/Recycling Crafts/Clay Work/
Fabric-paint Masterpiece/Logo Making/
Book Making

Recycling & Conservation 110

4Rs: Reduce-Reuse-Recycle-Rot/
Handling of Possessions/Soap Making/
The Problem of Over-Packaging and Waste/
Eco-bag/Handmade Solar Cooker

Lifestyle 122

Home-based Project/Home Library/Language
Learning/ Connecting with Your Surroundings/
Alternative Recipes

Part III (Appendix) Teatime!
Green Sprout presents *Children's Magazine*

Green Sprout loves teatime 146

Trees: Aug.2002/
Insects: Sep. 2002/
Water: Oct.2002
Birds: Nov.2002/
Man Power: Mar-Apr.2003/
Our Visit to Auroville: May-Jun.2003/
Sports: Jul-Aug. 2003

Recommended Reading 203

Acknowledgements

Initially, I wrote down certain episodes for this book in Japanese, my mother tongue. It took two years for the work to reach this shape. In fact, the process of making this book was another journey for me, and I encouraged myself by thinking of this process as my dream project. With enormous help and support from many people, I am delighted that my dream has come true here.

First, I would like to thank my son, Shantonu, and my daughter, Manosi, who brought me the rich experiences I have tried to describe in this book. I hope that the various ecology-related practices and products created by both of them provide readers with good examples and ideas.

My thanks go out to Vinita and Bharat Mansata for agreeing to publish this book as an Earthcare Books publication. I also wish to thank Maura Hurley-Basu who took up the tough task of tightening up my English. And I thank Orijit Sen for so creatively designing the cover out of his own good will. I would also like to thank Santayan Sengupta for helping me with the digital enhancement of the images in the book. I received useful suggestions and encouragement from all of these friends at every stage of this process.

My ten-year journey with Green Sprout, as well as the making of this book, are both endeavours that have been graciously backed by DRCSC (Development Research Communication and Services Cen-

tre), an NGO my husband and I are deeply involved in. My basic conceptual understanding and attitude toward life-oriented Environmental Education has been nurtured through ENRE (Ecology and Natural Resources Education), one of the DRCSC projects. Here, I also thank my senior and junior colleagues at DRCSC, as well as the teachers, field workers, and eco-group children affiliated with the ENRE network – they have always included Green Sprout as one of their members. I also had help from the production unit of DRCSC for the initial typesetting of my manuscript.

Despite this book being a very personal narrative, in response to the cooperation and support I received, I tried to make it something that will contribute to the scope of eco-activities and related skill information for a wider readership, around and beyond 'home'.

From the book, it may appear that I am a very organized person – having kept all the documentation, photos and writings over such a long period of time. I can only say that this is a by-product of my work in the ENRE project, that I have been fortunately involved with as a developer of activity-based lesson plans. For this, I needed to provide concrete examples when designing my lesson plans, and so the trials and experiences with my own children became the examples I shared with the teachers of the network. And that is why I kept my documentation so carefully over a long time. Ask Green Sprout! Generally speaking, I cannot call myself a very organized person – as I am often misplacing important things in my daily life.

Besides home-based eco-activities, the process of making this book caused me to reflect upon the past activities I enjoyed with my children; and this, in turn, naturally made me think about parenting. Children grow up with great speed! So many new and unexpected experiences are constantly being thrown at

parents, as well as the children. I just think we need to keep learning from them all – whatever comes our way.

I thank my husband, Ardhendu, who is not mentioned by name in this book due to my Japanese cultural background. He checked the technical parts of the book and gave valuable suggestions for improvement. His expertise, guidance and rich knowledge of gardening and Environmental Education have provided me with the foundation for my practical applications. And in the matter of parenting, I thank him for having introduced me to the following words written by Rabindranath Tagore:

O mother, child is not your wealth,
s/he belongs to himself/herself to the Universe,
to the creator of universe

I constantly carry these words around with me and reflect upon their meaning every moment, as a mother and as a child.

I am glad to be living in such a nice corner of the Earth.

Lastly, I thank you – for having picked up this book in your hand. I hope you enjoy sharing a few moments with me, and I look forward to your feedback and ideas.

Satoko Chattejee, March 2009
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PART I

Sowing Ideas

– Notes from Chandernagore –

In the Beginning

Introduction

How can a home participate in and contribute to Environmental Education? This is an account describing my experiences over a period of ten years as my family and I searched for an answer to this question.

In the beginning, I didn't have any such great aim in mind – I just needed something to do with my children. I never imagined that these ten years would pass by in the blink of an eye. I hope this personal account is something that can be usefully shared among young parents and educators alike. It is really for anyone who would like to do something constructive and interesting in their own surroundings.

Since I am from Japan and English is not my first language, I always need to have my writing checked. In fact, I asked my own children to check this work. I discovered how nice it is for parents to ask their children for help sometimes, and to learn from them. This is something special I have learned from our family's 'Green Sprout' activities.

And speaking of Green Sprout activities . . .

Getting started in Chandernagore

In the hot month of April 1997, our family moved to Chandernagore, a small town located 40 km north-west of

Kolkata, in West Bengal. For four years before this, we had been living in Cambodia, working for an NGO there. Our decision to move was prompted by a desire to educate our children in a place that used either my husband's or my own mother tongue. We chose India rather than Japan because we felt that our skills would be of more use in India.

If you have experienced making a big move to a new place, you will know how tough the first couple of years can be. There are so many little things to adjust to – new environment, new language, new schools, new people, new food, . . . the list is endless.

Chandernagore offered us a good environment, with its many trees and ponds – away from the pollution, crowd and bustle of Kolkata. But commuting on a daily basis was a major problem that our family faced. Due to the nature of my husband's work, he had to spend most of his time away from home. He was mainly working in and around Kolkata. As a result, I had a tough time being the mother of two small children who needed looking after – not to mention the language problem.

Our son, Shantonu (then aged six), entered primary school, while our daughter, Manosi (then three-and-a-half), entered the local nursery school. Though our children seemed to be happy going to school, I was rather surprised by the education system here. I found that children, even at the primary level, had to take many tests and examinations. On the other hand, physical exercise was limited to two classes a week, in uniform. In Art class, children were asked to copy a picture – and got higher marks for better copying! This came as a bit of a shock for me, as I felt that such a system would stunt my children's creativity and diminish their interest in learning. I even thought that the children would hate their school. But both my children seemed to enjoy their schools despite such a system.

Later, I realised that the diversity of Indian culture meant that the children had many holidays for religious festivals and celebrations, and we would be able to have plenty of learning experiences outside of school. Thus, my worries slowly faded

away as I busied myself with picking up Bengali, and creating an atmosphere at home that was conducive to learning.

Planting our Young Bean Garden

Our house, located beside a big community pond, has a small garden space, and it is here that I started our 'home garden'. This initially consisted of flowering bushes and trees, and though my children were too small to actually dig a garden, they maintained the garden very well. Later, on the advice of their father, we planted vegetables too.

Just before the monsoon of 1997, our home garden was 'officially' started. Owing to the limited garden area at our disposal, we mainly planted a variety of climbing plants (including Winged beans from Cambodia and many types of gourds) to create a rooftop garden.

The children's favourite work turned out to be harvesting, and they were very excited to harvest gourds bigger than their own heads! But the children were a bit disappointed when they found that gourds not harvested on time became hard and unfit to eat. Their disappointment did not last long, however, as they discovered that these gourds could be left to mature to provide seeds for future planting; and that the hard rind (shell) could be carved into lanterns or masks, or used as containers.

Besides these climbers, we also grew vegetables such as chillies, tomatoes, and carrots. The children found amusing ways to enjoy the vegetables. Shantonu made a 'hot crown' and Manosi made a 'hot necklace' with red chillies harvested from our garden! They also made puppets out of our home-grown vegetables.

The flowers turned out to be as useful as the vegetables. Hibiscus flowers not only made the garden look gorgeous but could also be used by the children for their 'meditation game'. This game was a great help for me as it gave me time to relax. Other than this lull, it was exhausting to look after the children all the time, especially during their holidays.

As you can see from the photos on page 101 the general look of our home is – a mess! Little children can easily convert 'organised cleanliness' into a mess. My advice to young parents is: save your energy – give up tidiness for the moment. A mess is harmless; so let children meditate in the chaos around them!

Check out examples of Home Garden techniques and various garden-based crafts in Part II

Seed-packet Project

Our garden entered its third year in 2000. By this time, the children gained more knowledge about the vegetables in the home garden, and they knew which plants were doing well. When we harvested more than we could eat, we shared the produce with our neighbours. We discovered that though Winged beans were not a familiar vegetable here, our neighbours received them quite favourably.

One day, I suggested to my children that we pack and sell the seeds of our plants. Both Shantonu and Manosi were tremendously excited and immediately agreed to this novel way of earning pocket money. "Selling?!" Manosi exclaimed, "We will be like a company!" Like true professionals, they quickly set about giving a name to our garden.

After some careful thought they came up with the name, 'Young Bean Garden'. Why? "Well," came the reply from Shantonu, "we are young (even *mother* . . .!), the seeds are fresh, and most of the plants grown in our garden are beans." There were a number of different reasons why most of the plants in our garden were beans. Besides being climbers, as mentioned earlier, beans are plants that, instead of consuming the nutrients in the soil, work to replenish the soil. Also, the fast rate of germination (most sprout within a week) meant that children were encouraged. We learned these kinds of things from the children's father.

Now, it was time for the staff of 'Young Bean Garden' to get together and discuss the details.

First on the agenda were the seed packets! Our meeting went something like this:

> *"Shall we use plastic packets so that everyone can see the seeds when they buy them?"*
> *"Remember that plastic creates disposal problems, so I think paper packets will work much better."*

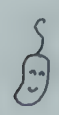
After such deliberations, we finally decided on paper packets. I taught the children how to make packets out of brown paper, and in the process, taught them the basics of measuring and calculating. They were quick learners and were soon making these bags without my help.

Next topic on the list? Our logo. The children designed and carved the logo stamp out of potatoes, while I fashioned stamps for the letters out of erasers.

Finally came the hard part; now, we actually needed to extract the seeds. It was laborious, and quite time consuming. The dried Winged bean pods, in particular, did not want us to break them open – to the extent that Manosi resorted to using her feet to get the job done!

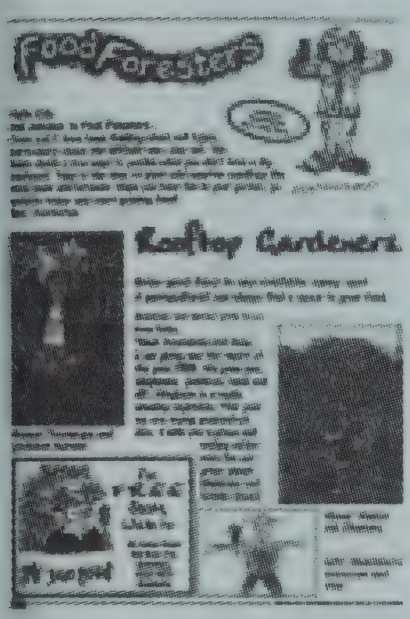
In its first year, Young Bean Garden produced three kinds of seed packets: Winged bean, Sword bean and Yam (a type of climbing plant yielding an edible tuber). The children wrote the name of the seed contained in each packet in both English and Bengali. We also inserted an explanation sheet that was checked by their father, who always says that information distributed to other people must be clear and correct. We distributed the seed packets among our friends and received a favourable response. This encouraged us to try selling some through a 'Fair Trade shop' in Kolkata. Through these efforts, the children finally got their long-cherished pocket money – and spent it on sweets!

I enjoyed doing this first 'project' with my children. I realised that doing and learning together is fun, and also easier (easier with a capital 'E'!!) for both parents and children. Children become immersed in their work, and parents get some breaks. Children are good at removing the distinction between work and play.



Have a look at more details on 'Seed Packet Project' in Part II, page 122

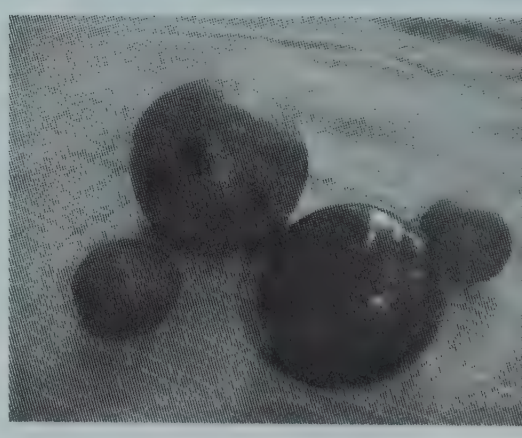
Writing about our Garden Activities



My children studied in English medium schools, with Bengali as a second language. Once Shantonu learned how to read and write at school, he wrote a short article about our garden activities for a few magazines. It was a proud moment when the children saw their own article appear in *Permaculture* (Australia) and *Skipping Stones* (USA). A family friend also introduced the Young Bean Garden Project in her family newsletter. These were all really good opportunities for the children to communicate their experiences. It would be so nice if this kind of seed project spread to other children, and more people started exchanging seeds – like letters or name cards. Why not?!

Interesting information sources for home-based, eco-activities are shared on page 203

Clay-discovery Crafts



Besides using produce from the garden, there were other kinds of crafts that the children enjoyed. One such craft was working with clay. Shantonu and Manosi brought the clay-soil required for this 'craft' from a nearby playground during the early rainy season (June-July). They made a range of fun items with their playground 'harvest'.

Shantonu discovered that the clay became very hard, as if fired in a kiln, after drying it in the shade for a few days. They made many small balls of clay and carefully dried them, and painted them with blue and green colours. They had created mini-Earths! By colouring one of the smaller balls orange, Pluto was created. In no time, they were playing with a miniature universe of clay and soil! You can also make incense sticks and candle stands and various figures with clay.

Clay items can last quite long. Once, Manosi dropped her 'Earth' by mistake, but it was strong enough to withstand the

fall; it did not break . . . The earth is in your hands, so take good care of it!

See also page 105

Opening *Ganapati* Library

There is some thing that accumulates silently and steadily in our house. Unfortunately, it's not money – but books. The number of children's books was also increasing year by year and invading the space in our home. Using my experience as a resource centre worker for an NGO in Cambodia, I taught the children the basics of book-keeping. I asked them to enter all their book titles into a 'stock register' and to categorize them by subject, based on a simple system. I suggested they keep the books on a shelf according to the entry numbers. We decided that stories, nature & science books, general knowledge, art, and language would be the six different subject-categories, each represented with a red, green, yellow, orange or blue sticker.

During their summer holidays, the children worked hard to enter about 300 titles into the Book Register. Finally, the books were arranged on the shelves in an organised manner. It looked so good, I'm sure the children must have felt a sense of achievement. We discussed sharing our book collection with others as a library, and soon the children had a name, Ganapati. As you know, Ganapati is the name given to the god, Ganesh, during his childhood. Ganapati Library was opened only for the long school vacation. Sadly, since we did not have too many Bengali titles in the collection, the children from our neighbourhood did not use the library much, but some school friends happily visited it. Rules for using the library were simple: treat the books with care, and deposit three books in the Ganapati collection at some time during the vacation period, so that the shared library grows.

Because the books kept increasing, we made our own bookshelves, using old wooden containers that we got from vegetable

and fruit sellers. After washing the wooden boxes well, we made sure to dry them out thoroughly. We hammered in or pulled out any nails that were sticking out so that they were safe to handle. Then the boxes were painted, to make them look pretty. Our handmade, low-cost bookshelves turned out angled at a slight slant, but they were just right for keeping our books. My children have never been very good at putting their books back properly after reading. In spite of a mutual agreement that new books would not be purchased until all books were being kept properly on the shelves, the number of books still seemed to keep increasing and being scattered here and there . . .

For a simple way to start and manage 'home library', check out page 126

Droppy and Yammy

Our garden-based activity was expanding gradually. It was November, which is a comfortable time of the year and we had another long vacation season – this time the *Pujas*, one of the biggest Hindu festivals in this region. Manosi and Shantonu found two different types of caterpillars. They told me, "These caterpillars will become butterflies. We saw it in our text book." But they had not seen it with their own eyes. So, I asked Manosi and Shantonu if they wanted to keep both the caterpillars and record their observations. They eagerly agreed.

The first thing the children did was to name each of the caterpillars. Children are fond of naming things. The hairy caterpillar was called 'Yammy', because it had been eating Yam leaf at a great speed. The other non-hairy caterpillar was called 'Droppy,' because it looked like a bird dropping on a leaf!

The children made houses from glass jars for both caterpillars. Manosi, who was then in Class 1, kept a very detailed record, while Shantonu, a Class 3 student at the time, kept a cursory record, with very few explanatory notes. I felt that both ways were acceptable. Each person has his or her own way of doing a task. Writing errors made by Manosi were also acceptable because

young people learn to write in this way – after all, we were studying caterpillars, not grammar. I kept my own record along with the children. This was a pleasurable experience for me too.

Well, what happened? Yes! Yammy became a moth (not a butterfly) and Droppy became a butterfly! Both of them were beautiful. We released both of them from their houses . . . and they flew into the sky. Congratulations and thanks to Droppy and Yammy! Through this simple experience, my children were always able to identify the family and friends of Droppy and Yammy from then on.

Have a look at the actual records on Droppy and Yammy on page 90

Friend-Trees

We have 'friend-trees' in our garden. Shantonu's friend-tree is a Champa (*Michelia champaca*) tree. We purchased the seedling from the local nursery and transplanted it into our garden. Champa was smaller than Shantonu at that time, but has been growing very quickly. The Champa was almost the same height as Shantonu in November 1999. Within a year, it overtook Shantonu and became as tall as a basketball player. Two years later, the Champa tree reached the second floor window of the house. *Hello, hello, . . .*

During the rainy season, the Champa blossoms with creamy white colours that exude an exquisite fragrance. You can see the record Shantonu made. Although he once commented that "keeping a record in the garden is too much trouble and I get too many mosquito bites," his friend-tree record became valuable and memorable to him much later on. In any case, do you want to see our Champa tree in March 2007? It is now taller than our house – a great tree, isn't it! (See page 92)

My own friend-tree is Annatto (*Bixa orellana*). This is actually not a tree but a bush, so the maximum height of Annatto is around 2-3 meters. I planted this from a seed that I brought from Birbhum district. When we visit places and see attractive plants, we often collect a few seeds if possible – as a souvenir. The im-

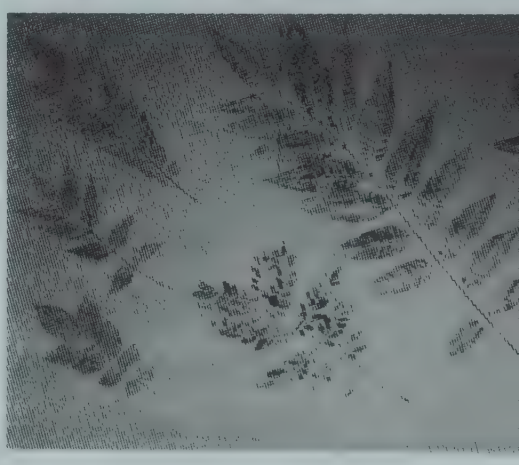
portant thing is not to become too disappointed when germination doesn't happen as well as expected after sowing the seeds. The Annatto was actually the result of only one seed germinating among 10-12 seeds that had been sown. I too kept a record of my friend-tree's growth. For me, it was really amazing to see how fast plants and trees grow here in India. In a cooler country like Japan, plants tend to grow much slower.

Besides having a very elegant flower, the Annatto is known as a plant for dyeing because its seeds give off a bright orange-yellow colour. This is used as a natural colouring for butter and other food items. As an experiment, we tried dyeing a piece of cloth with Annatto seeds. The result was a soft, milky orange colour.

See the detailed report on our Friend-Trees on page 92

Cloth Tapestry

Using leaves from the various plants and trees in our garden, we made a cloth tapestry. This was also an interesting art project to undertake with children. I used a low-cost markin cloth as the base. It has a natural off-white colour and costs around Rs 20-30 per metre. You also need fabric paints, which can be bought at any stationery shop in small bottles at about Rs 14 each. To do the printing, you will first need to collect various types of leaves. Next, colour them by painting on one side. Carefully press the leaf on the cloth and remove to see your leaf print (page 102).



Some important tips are:

1) Be sure you don't dilute the fabric paint with water.
2) Put colour on the reverse side of the leaf to give a better impression.

Removing the leaf from the cloth is the most exciting moment for children. With this style of leaf printing, you can make home-made tapestries and curtains. You can also enjoy

making original cloth shopping bags and T-shirts. Since we used acrylic-based fabric paints, the colour is not lost after washing.

I introduced this method of printing on fabric to some teachers at NGO run schools. We also made leaf posters to study the various types of leaves around us. Doing it this way is better than using chart paper, because cloth posters last longer and are handy to carry here and there. Moreover, these can easily be made by children – it's a lot of fun. This eco-project comes to you fully guaranteed by our own home-based trials!

Here Comes Green Sprout!

Green Sprout is Born

Around 1999, when I became more comfortable conversing in Bengali, I started working part-time for Development Research Communication and Services Centre (DRCSC), an NGO my husband, along with some other people, established in the early 1980s in Kolkata. The main work assigned to me was in the environmental education project. I was to design activity-based lesson plans for NGO teachers who promote the understanding of ecological issues through observation and survey of local natural resources. Needless to say, the various activities I was doing with my children at home were a great help for developing ideas for this work.

By 2001, this environment education project had progressed enough to be able to create children's eco-groups for each of the participating areas located in five different districts across West Bengal. The project then tried to link all the eco-groups to form a network. Feeling that my own children had gained sufficient experience through assisting me over the past three years or so, I encouraged them to join the network by making their own eco-group. By doing this, they were able to connect with the eco-groups in other places. Most of the members of these eco-groups were Class 6-8 students, and each group consisted of 8-10

children. Though Shantonu and Manosi were younger than the members of the other groups, and their group size was small, they were glad to join the network as a home-based eco-group.

All eco-groups were requested to name their group. Shantonu and Manosi came up with theirs rather easily: Green Sprout. They explained their choice, saying . . . they had started with Young Bean Garden, and a bean becomes a 'Sprout' after germination. 'Green', because they were doing something related to the environment. Put these ideas together and you get . . . Green Sprout! "Sounds good, and it's cute! Besides, sprouts are nutritious and tasty too," I remarked. In the meantime, Shantonu had already drawn a picture of Green Sprout. It looked cute, so all of us decided this would be the logo for the group. My two little earth friends had taken their first steps as 'Green Sprout'!

The next thing the children had to think of was the group structure. After some discussion, we decided that Shantonu would be the Group Leader, Manosi would be the Sub-leader-cum-Accountant, and I would be the Facilitator-cum-Fund supporter. Oh yes . . . we added as a thought . . . their father should also be included in this home-based eco-group, otherwise it would be unfair. Without even asking him, we decided that he would become part-time Advisor, since he was out of station most of the time. 'Green Sprout' now seemed to be officially inaugurated.

After some time, Manosi had a problem. She was unhappy because her older brother was always the leader while she was always 'sub'. She complained with puffed cheeks, "This is not fair." Her point seemed valid to me. I explained how important the work of an accountant is. Manosi finally appreciated the significance of her position and agreed to take on the work. I added one more point to the discussion, saying that "I am happy to provide funding for Green Sprout, but I want to later get back at least half of it. What I mean is, Green Sprout needs to be self-sustainable by earning some income so that part of the money can eventually be returned to me." Our Green Sprout accountant immediately questioned with great anxiety, "What! Can we really do that?" Soon, we had moved on to discussing how to earn an income as Green Sprout. One way would be by selling the Young Bean Garden seeds and other garden crafts the children

had already collected or made. Manosi was happy that she could keep the accounts since she was in Class 2 and knew how to add and subtract.

The role of the group leader would be to ensure that all members work together in harmony; and to represent the group in a wider network. The Green Sprout Leader, Shantonu, was in Class 4 at that time. Though he was much younger than other group leaders, we felt he could manage his role well because Green Sprout would be there to accompany him. Actually, we all thought of 'Green Sprout' as more than just our name but also an adorable little member of our group.

Yes! This is how I was born. "Hello!" to all of you.

Green Sprout Observes – Our experience with birds

Sometime in March 2000, when the weather was beginning to get hotter day by day, a bird acidentally entered one of the rooms and hit the ceiling fan, whirling around like the propeller of a helicopter. Sadly, the bird died. After checking a 'Bird Guide', we learnt that it was a Magpie Robin, with its black body, white breast, and sprightly tail. We buried the Magpie Robin under a hibiscus tree in our garden. After this incident, we immediately put off the fan whenever a bird came near the window in order to avoid another such accident.

This kind of incident brought us emotionally closer to Nature surrounding us – the trees, insects, water, medicinal plants, birds, fish, etc. living right near us. It can be called an 'experience' or 'encounter' with Nature, rather than just an 'observation.' This particular encounter definitely increased our interest in birds. You may have had a similar experience too. Think about it . . . If you ask someone, "What kind of experiences have you had with birds," rather than typical questions like, "What birds do you know," you are sure to get more interesting answers.

We see various birds because there is a big pond beside our house, and many trees, unlike in a big city. Whenever we encounter a new bird, we look it up in *The Book of Indian Birds*,

mark it, and write down the date beside that bird's description in the book.

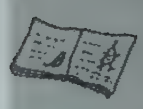
Early one morning, we were surprised by a busy sort of sound coming from the rooftop . . . *kon, kon, kon, kon, kon.* When we went to investigate, we found a woodpecker at work on a bamboo pole we used for hanging clothes. The red spot on the head of the woodpecker was very impressive.

We started paying more attention to birds. Watching a peacock-blue Kingfisher dive into the pond to catch a fish is always a precious moment to encounter. One day, I observed the Kingfisher take its position on a tree branch after its catch. It held the fish with its beak and started hitting the fish against the branch. The Kingfisher broke off the head of the fish this way and then swallowed the remaining body in a flash. Amazing! I excitedly recounted this to my children when they returned home from school. "Hmmm, is that true? I do not like eating the fish

From the Ganapati bookshelf: birds, birds, birds . . .

If you want to know the name and details about a bird you have seen, you can consult *The Book of Indian Birds*, published by Bombay Natural History Society. This 354-page book lists all kinds of birds, according to types with neat illustrations for identification. The author, Salim Ali, collected all the information himself through his field observation. Some of you might know Salim Ali as the 'Grandpa of Birds'. The book, *Salim Ali: India's Birdman*, published by Rupa tells you of his role as a pioneer ecologist in India.

Ranjit Lal suggests in his book, *Birds from my Window*, published by Tulika that you can do bird watching without going to forests or fields. He introduces 50 birds that he observed through the windows of his house. Green Sprout did this just like him.



My Nature Garden Book of BIRDS: Part-I, prepared by Green Sprout (page 109), is also nice. It introduces birds by illustration. Though Part-II is not yet made, it will be an interesting introduction to friendly birds. You too can make your own bird book!

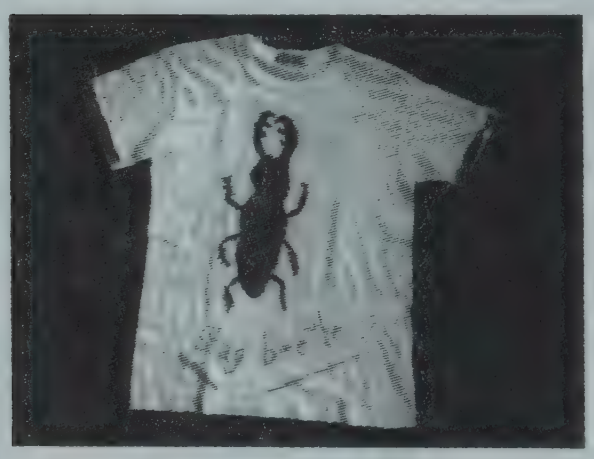
head either," Shantonu agreed. I thought that maybe it was only that one particular Kingfisher that did not like fish heads, but later on, I paid closer attention and witnessed the same behaviour several times. From this experience, I realised that Kingfishers are very clever and skilful, and they do not like fish heads!

Such observations are fun and exciting for both children and parents. They are like small treasures of discovery, and bring a special sort of satisfaction to daily life.

Each bird has its own really fashionable style and attractive body colour and design. The children drew some of the birds they had seen on a cloth using fabric paints. The painting turned into a masterpiece wall hanging! They also painted a bird on a cloth bag and this became a unique gift for their grandparents in Japan. Manosi later made her own 'bird booklet' with colour pencils. Green Sprout would like to comment here that although observation alone might be boring and short-lived, if you expand from there, by making various crafts, discussing, and keeping a record, 'observation' becomes very enjoyable and memorable.

Our bird 'Masterpieces' are proudly presented on page 106

Green Sprout is Convinced – Our experience with insects



The following story is another Green Sprout anecdote. This time, it occurred on an ordinary school day morning. Manosi suddenly screamed as she was eating her breakfast, "Aaaaaaaah!!!" Utterly shocked, I ran to her from the kitchen and asked what had happened.

She exclaimed, *"The ant just walked away . . ."*
"What!?" I asked, *"do you mean THE ant?"*
"Yes," Manosi nodded.

THE ant was a big black ant, one that had somehow found its way onto the plate covering a bowl of milk inside the fridge. It had just stayed there, and had chilled to 'death'. Manosi

discovered it when she was taking the milk out of the fridge. She asked me what she should do. I told her to leave the ant where it was and eat her breakfast instead. There was a gap of 5-6 minutes before I heard Manosi's blood-curdling scream! According to witnesses (the children), the 'dead' ant started moving slowly, then started walking away from the plate, and finally right off the dining table. Manosi kept her jaw dropped in surprise, having long forgotten her bowl of corn flakes. "It's been revived, hasn't it?" Shantonu asked, puzzled.

After a few days, the children's father returned from one of his work trips. We told him our story. He explained to us that because ants are cold-blooded creatures, the ant looked dead, but the cold temperature of the refrigerator had only immobilised it. Now, we all read about cold-blooded and warm-blooded creatures in our primary school science text books, but this 'rebirth' of our ant brought to life the textbook definition of cold-blooded creatures: creatures which, instead of generating their own body heat, have the same body temperature as the surrounding environment.

See page 158 in *Children's Magazine: Insects, Sep. 2002*

Green Sprout Fails – Our experience with vermi-composting

Though we may try many things, there is no guarantee that we will always triumph. Failure is part of the deal. One such failure for Green Sprout was our experience with vermi-composting. Vermi-compost is made with a certain kind of earthworm that turns kitchen waste into compost. I thought this sounded like the ideal eco-activity for us to try out at home, so I decided to gather more information on it. After having a strategy meeting with the children, Green Sprout members took action.

Various materials were required for this mission: we needed the earthworms; straw and soil for the bedding; cow dung or nitrogen-rich compost for feeding the worms; and finally, a container for making the compost. Our

spirit steadily fell as we viewed this list. Would we actually have to procure all that?! Well, first we had to get straw. I remembered having seen a hut-like shop at the nearby market where they seemed to be selling straw; I thought we could get it from there. Next, we needed cow dung. Even though Chandernagore is a small town, cows do often roam the street in front of our house. I suggested to the children that we collect the cow dung from the street. "Oh, no-o-o," they said, but they followed me out to collect our cow dung stash, albeit quite reluctantly. While collecting the cow dung with a small shovel, I explained to the children, "You know, cow dung is actually a very clean substance. It has the power to kill germs; so much so that villagers use cow dung mixed with straw pieces as a building material, and for plastering the floors of their homes. It really has no offensive smell . . ." The children, however, had their own opinions. "This is so smelly!" they immediately exclaimed. Anyway, we managed to procure some cow dung for our mission.

We then collected 5-6 earthworms from our garden. Though we *actually* needed a certain type of earthworm (*actually* red wigglers), we decided there were too many *actuallys*, and it wouldn't matter too much if we just used what we could get. We thought, "it's okay to compromise." For the container, we brought a wooden box home from a vegetable vendor in the neighbourhood. It didn't look all that strong, but seemed good enough to serve our purpose.

With our preparations completed, the actual work began. Under my supervision, the children started cutting the straw into 3-4 cm pieces, using garden scissors, and breaking down soil to make it soft. Meanwhile, I tried to make a compost solution by mixing cow dung with water in a bucket. Oh yes, I was also in charge of taking pictures for our record keeping. We were all struggling with the process as we sweated it out in the heat. In addition to this messy situation, we had to fight off the mosquitoes that were attacking us. In my mind, I held onto a shining image of my family recycling all our kitchen waste in an ecological way through this vermi-compost bin. This drove us on, despite all the itching and sweating. The mission was much harder than we expected. I needed to prepare lunch too, so we finished hurriedly.

Next, we had to figure out how to maintain our vermi-

compost arrangement. We needed to maintain the correct level of moisture in the container by watering it every day, especially till the earthworms were firmly settled. But sometimes, we forgot to water it, and as a result of our own laziness, the vermi-compost totally dried in a few weeks under the hot sun we have here. I hope the poor earthworms evacuated themselves safely from the container. Sorry to them, and sorry to us – this was a case of 'Mission Incomplete', in spite of having spent so much time and energy in preparing and building. In the meantime, the box of compost totally collapsed. It was a perfect failure. This unsuccessful experience annoyed us, and I must say, we never tried vermi-composting again.

Our next encounter with vermi-composting was when we saw it being practised at another place, in a large earthen pot. We could see the beautifully rich blackish compost in the container. "You see, I just put my kitchen waste in here like this, and the remaining work is done by the earthworms," explained the owner, smiling. The members of Green Sprout were looking at each other's faces, all thinking the same thing, "How come everything looks so easy when other people do it?" Honestly, we all felt a bit jealous then, but we certainly did learn from our failure.

How to make vermi-compost is explained on page 84. We wish you can successfully pursue it. "All the best!"

Green Sprout Makes it Through – Our experience with fish

I guess every family has its own ups and downs, with some significantly fortunate and some less fortunate periods. We had a terrible incident almost four years after moving to Chandernagore when four or five burglars tried to enter our house. It was a mid-February night in 2001, just as the season was changing from a declining winter to early spring. When I went to lock the outside gate, a man suddenly came out from the garden and pushed me back onto the collapsible gate. I was so

surprised to see that he had a big knife in his hand. I was momentarily disoriented. When I saw more men appear, I got really frightened and raised an alarm, screaming as loud as I could.

When the burglars pushed me backwards, I fell down over a big earthen pot that turned over and broke. Suddenly, water was gushing all over the entrance floor. Under the dim light, the burglars must have been quite surprised, even terrified, for a split second. The pot was our guppy pond. Guppies are small fish known to be larvae-eaters, which is why we kept this pot at our door to ward off mosquitoes. Thanks to the guppies, we were protected not only from mosquitoes but also from the startled burglars, though the fish all died in the line of duty.

Anyway, I took advantage of this unexpected turn of events and tried my best to block off the half-opened door to prevent the burglars from entering my house. Having heard my shouts, Shantonu came running down the stairs, raising a huge racket by hitting the stairs with a stick and yelling out, "Ha! Ha! Ha!" Luckily, the burglars started running away, one by one. They must have thought that my little ten-year-old Shantonu was a much bigger guy. Later, the police praised Shantonu, saying how courageous he was. To be honest, Shantonu was not even aware that there were burglars at that time. He only thought I was yelling (as usual) about some cat that had entered the house through the windows. I must say that I am a lucky mother because my children know I scream a lot even over a small thing; yet, every time they come to my rescue.

Partly because of this incident, I decided to take a break from India and went back to Japan during the children's summer holidays that year. It was a trip back to my home country after four years. I stayed with the children at my parent's place. We certainly had a nice time there, and the children even attended the local primary school in Japan for one week as guest students. They had a really lovely time with friends there.

We returned from Japan with sweet memories. But soon after, Manosi got chickenpox, which may have been a souvenir from Japan. Shantonu contracted it soon after that. In addition to the extra leave we took for the extended summer holiday, they both had to take more leave due to this bout of chickenpox. Manosi had difficulty catching up in some subjects, particularly

Bengali. As a result, she was not promoted to the next class in spring, and was told she would have to repeat Class 3 the following year. Honestly, I could not believe a school would do this to a primary level child, though it seems to be a common practice throughout India. Including my daughter, there were 4-5 other repeaters in her class. Since Manosi had been enrolled in primary school a bit early, we thought that repeating a year might actually be a good adjustment for her though we worried that she might get discouraged. Losing confidence and pride is a big problem for any child. Of course, she was upset at first, but she soon made new friends in her new class and continued with school happily.

These kinds of burdensome experiences affected me more than the other family members, and perhaps due to stress, I started having severe back pain. I had a very hard time with this for close to seven months, from September 2001 until the following spring. Since that time, I have been unable to carry any heavy objects and have avoided riding my bicycle. My children have been helping me a lot with household chores. And, though we had planned to shift house again that spring, we decided against it. Chandernagore would have to bear with us a little longer!

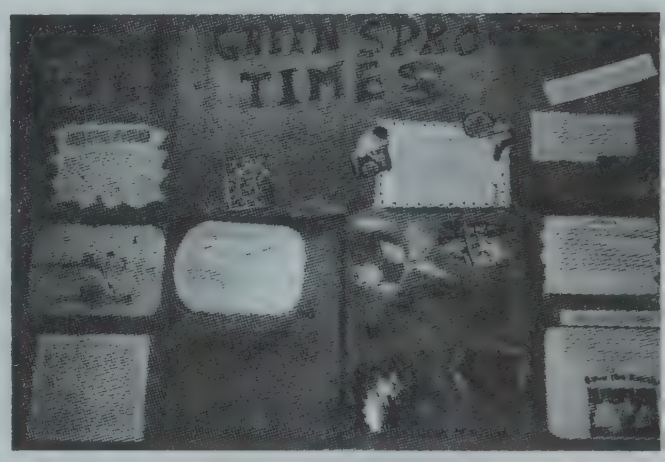
That spring, the *koel* (cuckoo) seemed to call out to me . . . "*Take it easy, take it easy, don't worry, don't worry . . .* " It gave me a gentle healing touch, and also an important reminder to be more careful to lock the doors always.

Oh yes, I also now know that guppies are very efficient in controlling mosquitoes. My family recommends you keep some guppies too. They are very beautiful fish – and easy to keep.

If you want to keep your own guppies, refer page 87 on how to make a small pond.

Green Sprout Spreads Out

Green Sprout Launches its Children's Magazine



Small children observe the actions of their mother and father to the finest details, and often try to copy what their parents do.

One day, Manosi told me that she wanted her own office. My back pain had somewhat lessened by this time, and I was involved in making booklets as an assignment for the environmental education project. Since I work from home, I have always called the small table I use 'my desk', and tell the children that the space surrounding my desk is 'my office'. This was a strategy I developed for making them understand the distinction between home and office/work and play – and it signalled to them that they should not disturb me during the times I sit at the desk in 'my office'. After having seen me spread papers and reference materials out on my desk while I was working, Manosi told me, "I want my own desk too."

"Patience, patience . . . ," I muttered to myself as I set up a small table for Manosi, a little away from 'my desk'. At first, Manosi happily worked on her drawings and home tasks on the table, but she gradually started feeling a bit dissatisfied with this situation. I guess she started thinking that her own desk should be in her own office, just like her mother's set-up, and that area should be different from what she saw as her study desk. She

started hanging out around me again, and quite frankly, annoying me while I worked.

"Patience, patience . . .," I repeated to myself as this frustrating situation continued. I decided to just ignore her and tried to concentrate on my work, but it was so difficult with her just loitering about me with such a pondering face. Finally, I hit upon a good idea and I said to her "Manosi, you better do your work on your desk. How about making a newsletter or magazine on your own?" One thing led to another, and soon the members of Green Sprout were having another discussion, which ended with us all deciding to publish a newsletter.

Manosi was chosen as editor of the Green Sprout newsletter, which was now named *Children's Magazine.* She asked me about the kind of work an editor does. Shantonu and I explained to her that an editor is in charge of making the magazine: deciding on content, themes, articles and illustrations, and designing the layout just like I was doing for my work. She looked happy and honoured at first, but after a pause, she asked again, "But Shantonu will also write articles and draw illustrations, won't he?" We explained to her that creating a magazine could not be just one person's job, that various people must contribute to the writing and illustrations. Manosi's questions, however, continued, "What is layout?" she asked. "Layout is deciding upon the positioning of the articles and illustrations on each page, fitting them all in," we assured her. "Hmmm . . ." Manosi finally got a picture of her work and looked content. The making of *Children's Magazine* had started. Manosi, as if she was a professional, was now busy, carrying her bag containing papers and files and going to 'her office' every day, where she was finally able to seriously start 'her work' at 'her desk'.

Later, our editor began to call for editorial meetings! Other staff members, Shantonu and myself, had to attend these meetings to decide on the topic for each issue. This led to serious discussions. Some of the topics we selected for *Children's Magazine* were similar to those in the booklets I had been preparing for the NGO, but some were exclusively Green Sprout topics. The first *Children's Magazine* was launched in August 2002. It had a headline, a contents page, essays, interviews, jokes, game pages, quizzes and prizes, an editorial message, etc. and it looked so good!

Since this was a magazine, it seemed meaningless to just keep it at home after it was made. It needed circulation, so we made copies, and coloured them by hand to make them look more appealing. We sold these at Rs 5 per copy. The expenditures on photocopying and stationery were paid out of the sale earnings and the children also got some pocket money from it. The whole activity made our editor, Manosi, extremely proud and happy. Both the children were encouraged when readers asked, "When will the next *Children's Magazine* be out?" I became a fan of this magazine myself, so even I was urging them on, telling Manosi how much I wanted to read the next issue. She gave a surprisingly professional reply, "Then you must get busy and submit your article for the next issue soon." I felt she was handling the role of editor better than I ever would have.

Issues of *Children's Magazine* continued to be published. In 2002, the main themes were: '*Trees*' (August); '*Insects*' (September); '*Water*' (October); and '*Birds*' (November). Then, in 2003, we had '*Man-power*' (March-April); '*Auroville*', where the children were born (May-June); and '*Sports*' (July-August). A total of seven issues were published in two years.

These copies of *Children's Magazine* had a wider circulation when their father visited other states in India. Some issues were even sent to a Japanese NGO for an Eco-exhibition. In return, the children received funny jokes, articles, and similar magazines prepared by other children's eco-groups in India and Japan. Through creating of our *Children's Magazine*, Green Sprout learned that to send information is to receive information. But from 2004, the *Children's Magazine* suddenly stopped being published anymore, as Manosi and Shantonu's interests started shifting to other things which took up more of their time.

You can read the complete series of *Children's Magazine* in Part III.

Green Sprout Networks – Becoming part of a team

In January 2003, a get-together exhibition was organised in Kolkata by the eco-network of which Green Sprout was a member. It was an enjoyable and meaningful opportunity for each group to show and demonstrate what they had done over the last 2-3 years. Stu-

dents and teachers from Kolkata who visited the exhibition, commented that this was an eye-opener for them as they got a feel of the variety of natural resources in the rural areas, where most of the participants came from.

Green Sprout had its own corner to display and demonstrate our activities. Though Shantonu (age 11) and Manosi (age 9) were younger than the other participants, they exhibited 'Ecological Crafts' as their theme which they explained with the help of topic maps and samples of what they considered to be ecological crafts. As a demonstration, they showed how dried orange peels could be burned as a mosquito coil. Participants went away feeling how much fun it was to make such items. Green Sprout earned Rs 200 selling their eco-crafts during this exhibition.

Later, the network also organized eco-skill camps and once again, Green Sprout participated. Both Shantonu and Manosi learned compost-making, tree nursery skills like grafting, and how to build a solar cooker. The children participated in these camps partly because I was one of the organisers. I had to take them along since there was no one at home to look after them. Unlike the joint families, which are still common in India, ours was a nuclear family. Although taking the children along with us on business trips required extra responsibilities and preparation, in my case, I felt fortunate to have their company – this was always a big help to me and a great source of encouragement.

The same is true for their father, who has to spend a lot of time away from home, as his work involves training NGO workers in various places. The only way the children and I could spend time with him was during the children's school holidays, when we could accompany him. Making this family situation work for us, we have had the opportunity to visit most of the districts in West Bengal, as well as some other states of India over the last ten years. Of course, these were not exactly holiday trips! Most of the places we visited were rural areas, and the children and I also attended parts of the training sessions. On such occasions, the children were given notebooks just like other trainees, and even listened to the sessions on

sustainable agriculture. Sometimes their father would ask them what they had understood from these talks, so they needed to pay close attention all the time. It was also a good opportunity for the children to observe how their father worked. When they were not in the mood to attend the trainings, they spent their time doing things like helping out in the kitchen, playing with sand and fallen leaves in the compound, reading books, chatting with people, etc.

All of these experiences brought the members of Green Sprout closer and more appreciative of each other and of other participants.

Green Sprout Respects Humour – Our tips for living

What do you do when things do not go as you expected them to? Many people might think life in India is tougher than say, Japan, where everything is well organized and convenient. There certainly are discomforts – load-shedding, steamy-hot weather, crowded transport, litter strewn about, air and noise pollution, slow and infuriating government civil services, repairmen who don't turn up when they say they will . . . This long list of negative things caused me a lot of stress during my first two or three years in Chandernagore. But I thought to myself, what about the people here? For the most part, Bengali people don't look very anxious. So, what is '*their*' secret?

One day, my husband told me, "No matter how much you hurry, the train you are riding will not run any faster." By this he meant that I should not worry or get upset over situations that are beyond my control. After this, I felt that I had a glimpse into 'the Bengali philosophy of life'.

On another occasion, he told us about a rickshaw-puller he had hired to return home from one of his training sessions. This rickshaw-puller called out to him, saying, "*Dadu* (Grandpa), take a ride!" Now, this ordinarily wouldn't have annoyed my husband, however, this very same rickshaw-puller used to call him, "*Kaku*" (uncle) not much earlier! Everybody who was listening to his story

felt sorry for him, but he then delivered the punch line . . . "I'm happy to declare that I have successfully developed from a *Kaku* into a *Dadu*!" This made growing older seem a lot better.

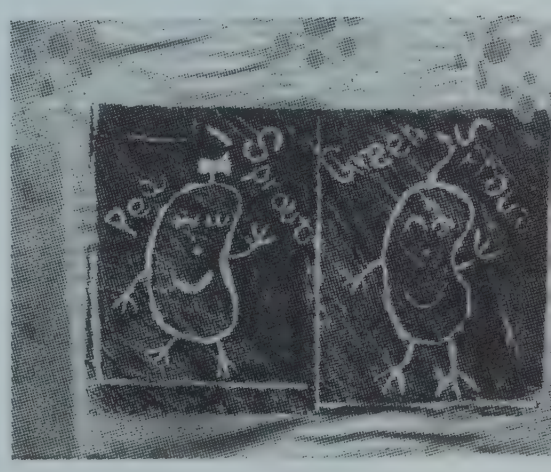
My husband often relates jokes and funny anecdotes like this both at home and during his training sessions. Though I listen to the same jokes from my husband over and over, I still laugh. Most of his jokes are about a mythical person called Naseeruddin, and through this Naseeruddin character, he once told me a story of people who are just like me: One day, Naseeruddin and his group of friends, who loved sharing jokes, were gathered together as usual. One of them commented aloud, "We often repeat the same jokes over and over, but we still end up laughing. So, why don't we save ourselves some time and just number the jokes?" They all agreed to this very practical suggestion.

According to a mutually understood system of numbering, one guy yelled out, "Number 6!" This made the rest of the bunch burst out in great laughter. The next guy then silenced them and called out, "Number 23!" whereby all of them once again burst out laughing and guffawing in great glee. "Number 11!" suggested another one of them, and the rest laughed till tears filled their eyes. Then, the next guy called out, "Number 17 . . ." but not a single person laughed this time. The guy was a bit surprised and asked what was wrong? His friends explained to him, "You just didn't say the number in the right way." This Naseeruddin joke made me laugh again, followed by a rather serious thought: "I wish I could share jokes like my husband does. I hope I am not like this Number 17 guy."

Though I am not a good joke teller, I feel that having a sense of humour is a necessity for living here. We are always sharing funny stories about our experiences at school, on the way to office, or shopping, and we simply laugh about them all. You can try it too. In fact, Green Sprout highly recommends this! When you laugh, you feel better – even when you are in a tough situation. Green Sprout thinks that jokes and humour deserve respect because they provide us with a different way of looking at the world around us – and we think you will agree!

Enjoy the 'Jokes' section of *Children's Magazine*, too.

Green Sprout Finds a Mate – Welcome Pea Sprout!



Green Sprout is a bean, of course. Neither my children or I thought it would matter whether Green Sprout was a boy or a girl. But after awhile, we all started thinking that Green Sprout might be lonely and needs a companion to work alongside him. "Let's find a girlfriend for Green Sprout," Manosi exclaimed, and Pea Sprout was created. Pea Sprout made her debut in the April-May 2003 issue of *Children's Magazine.* She has just one hair tied with a ribbon, and loves sports and peace.

I remember that Manosi was in Class 4 and Shantonu was in Class 7 when Pea Sprout was born. This is generally the time when children start becoming conscious of differences between boys and girls. It is an important stage when both boys and girls grow to have an understanding of each other and begin to acquire a cooperative and respectful attitude toward each other. Unfortunately, most schools in West Bengal are not co-educational, so children have less opportunity to have such interactions at school.

As a general observation here, girls who reach Class 3 or 4 (age 9-10) do not play outside any more. When Manosi was smaller (before Class 1 and 2), she used to play with some other girls in a corner of the playground. This group of girls would usually play make-believe games like cooking-and-serving or school-play, and hide-and-seek. On the other hand, Shantonu played football and cricket with other boys. After a while, when Manosi entered Class 2-3 age, most of the girls gradually stopped playing outside. So, she was left alone and just followed her brother around. Slowly, she started to play with the boys who would include Manosi as their friend. When they played football, Manosi was, of course, first given the less important positions where the ball rarely went, but gradually she improved her game skills and was treated just like any other team member. Since this time, Manosi has been playing football with the neighbourhood boys – even when Shantonu could not play due to his studies. Several younger boys have joined too, and Manosi is now called "*Didi*" (elder sister in Bengali).

Manosi was a bit disheartened that no other girls would join her in playing football. As a Class 4 girl, she expressed her thoughts well in *Children's Magazine* (July-August 2003). Though she finally gave up the hope of other girls joining her, Pea Sprout was always firmly backing Manosi up.

One day, Manosi returned home from the playground very angry. She said to me, "You know, during the game, when somebody makes a mistake or doesn't play well, the boys say, '*meyeder moto khelish na* (Don't play like a girl!)' What does that mean?!!!" I turned to my son, Shantonu, who immediately shrugged his shoulders and defended himself by saying, "I didn't say that . . ." All I could do was smile. Manosi asked me sharply, "Why are you laughing!?" The reason I had smiled (it wasn't that I was actually laughing, more of a knowing grin) was that I felt it funny, because we have the same expression in Japanese too. I felt that as a mother, I couldn't ignore this opportunity to help sort out some gender issues for the younger generation. I boldly remarked to my son and daughter, "Well, that is not good at all. We should use alternative forms of speaking; well, like . . . Don't play like a cow or a donkey, or something like that." Shantonu immediately responded, "Oh, that's not good either. It would be an insult to the cows." Manosi and I stood there looking at each other, while Shantonu quickly disappeared from our sight. This happened in March 2007, Manosi was then in Class 7, and Shantonu in Class 10.

Gender implies difference, which is a natural phenomenon. But if some kind of unfair discrimination arises due to gender, it can become a complex problem – what is known as a 'gender issue'. My Green Sprout children may face several challenges related to this issue in the future, and I hope that they are able to perceive boys and girls, men and women as equals. I was glad to see that Green Sprout and Pea Sprout are very good friends and partners, who work together cooperatively.

"Hi! I'm Pea Sprout. I'm happy to be a member of Green Sprout."
Check out *Children's Magazine*, page 186

Green Sprout Promotes the Eco-bag

Here in West Bengal, the problem of waste disposal is becoming serious. It is disgusting to look at the increasing plastic waste materials, such as micro-thin carry bags and other kinds of wrappers and packaging, thrown all over the place. Mass-produced items that are packaged in plastic have entered the markets rapidly, but people are reluctant to act responsibly, and start separating their household waste. It is said that 50% of the plastic used in India goes into packaging – all completely non-biodegradable waste.

Of all the eco-crafts designed by Green Sprout, the most popular one is surely the eco-bag: simple cloth bags we had got stitched by a local tailor, which the children then decorated with fabric paint. These cloth bags can easily be made special because everybody can personalize them with their own eco-designs. Green Sprout promoted the cloth bags as 'eco-bags' that allow us to easily reduce our use of environmentally damaging plastic carry bags. The cloth bags also reflected our love of traditional alternatives like leaf plates (disposable plates made by 'stitching' Saal leaves together), grocery bags made of old newspaper (known as *thonga* in Bengali), earthen cups (disposable terracotta cups used for tea or as containers for juicy sweets and curd), and banana leaves and lotus leaves, which are used to wrap up flower offerings to the gods. These materials have been used here in India for a long time, and all of them are natural. From an ecological viewpoint, when compared to plastics, these traditional materials are far more advanced – as they demonstrate wise-use of natural resources and promote the concept of recycling.

Making one's own cloth bag is like a personal contribution to the 4-Rs: **R**educe, **R**euse, **R**ecycle, and **R**ot (making compost by rotting organic waste). Green Sprout put its logo on the bags using a stamp and with stencils, but of course, free-hand drawing is also always enjoyable. Once again, we used markin cloth as it is quite inexpensive. You can make a cloth bag for

less than Rs 20. Green Sprout members introduced the cloth eco-bags to other groups and friends. It's not just an ordinary bag – it's a sign that we are earth-conscious citizens.

Have a look at examples of eco-bags and our message on page 119

Green Sprout Keeps Experimenting

Easy and Lazy for Green Sprout – Sheet mulch garden

You may be wondering what happened to the Young Bean Garden five or six years down the road from when it was first started. Many of our friends actually do ask us . . .

"How does your garden grow?"
"What are you growing these days?"
"Is your rooftop garden still growing strong?"

And Green Sprout members usually avoid such questions because, to be honest, our garden looks like a wild jungle. We answer, evasively,

"Well, . . . yes, . . . it is – um, you know, a lot like before . . . Hmm . . . yes. The garden. Well, ahhh . . . people say it . . . er . . . looks a bit wild . . . like a jungle, perhaps!"

We have allowed the weeds to dominate. I am not physically able to dig soil with a hoe ever since my back started giving me a problem. The trees in the garden have become taller and as a result, the shaded spaces in the garden have certainly increased. This situation nudged me to opt for what is often known as lazy

gardening. I tried to make a 'sheet mulching bed' with the children. This is a technique from *Permaculture.* Have you ever heard this word before? The concept was first developed in Australia by a man named Bill Mollison, and has since spread world wide, as a system of ecological agriculture. *Permaculture* aims to use land for organic food production through well designed zoning concepts and various other creative gardening techniques. The sheet mulching bed is also sometimes called a 'no-dig bed', because we can grow vegetables without ever digging up the soil. This method is also an interesting way to manage organic waste because any type of organic material can be used for this.

In sheet mulching, you first cover the soil with layers of various kinds of organic matter. This cover protects the soil from erosion and weeds and works to maintain a balance of moisture and temperature. Anyone can do it even in a small space – all you need to do is collect that organic waste beforehand. Green Sprout made a very small sheet mulching bed and successfully grew French beans and turmeric.

Another lazy gardening method is to grow your seedlings in milk packets. This is much easier than making a nursery bed. Also, if you learn about layering and grafting, you can easily and quickly multiply most of your trees.

Generally speaking, people think that a well-weeded garden with no fallen leaves in it is beautiful. They warn you that thieves and mice can enter the house if trees and bushes are growing wild around it. Our neighbours complain that the trees in our garden make their garden look 'dirty' because all the leaves, blown by the wind, end up on their side. One day, my husband had to comment, "We can't ask the trees to stop shedding their leaves, can we?" They also complained that we were breeding mosquitoes in our '*jongol jongol* garden'. At first, I thought it was funny that they were using the word, 'jungle' to describe our small patch of a garden, but I later came to know that *jongol* in Bengali is a word used to describe any wild and bushy situation.

Since then, our garden has always been called a *jongol.* People might think that we do not care about our garden at all. It is true that we don't have to do much for it. However, if you compare our garden to our neighbour's garden from the roof, you will be able to notice the difference clearly. The 'beautiful' gar-

den next door, which is swept and weeded daily, has many patches of exposed soil that are bleached white by the sun, and are cracking. On the other hand, the Young Bean Garden is covered with fallen leaves and weeds, and the soil is blackish in colour. If you walk through the garden, you will soon understand that our soil is soft and gentle to the touch. We just have to put our seeds under these fallen leaves, and they start to grow naturally. Sweet basil, tomato, New Zealand spinach (Talinum), Winged bean, etc., they all grow well in this garden. Star fruits and curry leaf plants have been growing here for a long time. The butterflies and birds seem to prefer this garden too, though wasps have been a problem at times.

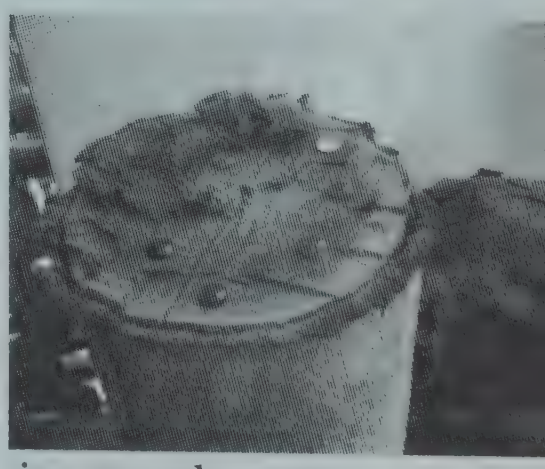
Our garden and its soil are both self-sustaining. So . . .

"What has happened to the Young Bean garden then?"
"It is a perfect jongol – by choice!"

After ten years, we can now answer this question with total confidence!

Try your own sheet mulching bed. How to make one is shown on page 66

Green Sprout Harvests a Tree



There was a tree just beside the entrance gate to our house (the one our neighbour complained about, for its falling leaves). We did not know what kind of tree it was since it was there before we moved into this house. At that time, the tree was about 1.5 meters tall, slender, with very bright green leaves. It grew very quickly, and within three or four years, its trunk grew to around 30 centimetres in diameter and its branches were spreading out with pride. In summer, its green leaves provided us with nice shade, while in the winter, it looked bare after shedding all its leaves. In spring, it was covered in new green leaves. The tree would bear fruits that were small and green, and though people could not eat these, the birds really seemed

to enjoy them. The flowers were very small and not easily visible. My husband guessed that this tree might have originated from the hill areas of north Bengal. Our neighbours said to us, "Why don't you cut that tree down? It's useless, and its leaves are such a nuisance to us. You cannot sell the fruit . . . you cannot sell the timber . . ." Our neighbours were never quite able to appreciate the true value of this tree. We kept ignoring their complaints.

As you probably know, trees grow very quickly in hot countries. This tree was a good example, as it seemed amazingly bigger, especially after the rainy season. Soon, however, the tree did become too big for our garden. Its roots started to spread out, and before long, the bricks of the boundary wall were cracking and breaking off. Also, perhaps due to the age of the tree, insects attacked it, along with the continuous attacks from our neighbours. In Winter 2005, we finally decided to cut the tree. Shantonu was extremely disappointed by this decision, explaining that the tree was a kind of landmark for him when he was returning home from school in the hot season. When he saw the top of it from a distance, he felt a soothing feeling. Moreover, there was a family of langurs that often came to this tree, seeking its cool shade, and we saw various bird species loved it too.

But we knew we had to do what we had to do. The people we had appointed to cut down the tree (a father-and-son duo) started by cutting the branches off first. The trunk was too tall to cut at one time, so they cut the main trunk into three portions. After nearly three hours, the tree had been completely removed and the space it occupied felt so empty. I comforted Shantonu, "Let's think of it in a different way, that we harvested a tree – not cut it down. We can still use this tree in other ways. The tree is still with us. Don't worry." We kept some parts of the trunk standing in the entrance path, and they looked like art objects after the children put various coloured marbles into the nooks. I poured a little bit of Japanese rice wine on the stump to celebrate the tree's spirit. Though I couldn't actually remember why people in Japan do this traditionally, I guess big trees that have seen many years are thought to have a certain spirit within them. The spirit of both

plants and people must be celebrated when they depart, and return to the air and earth.

This is the story of how we 'harvested' a tree from our Young Bean Garden.

For information on multi-purpose trees for home garden, see page 75

Green Sprout Goes Out and About – Collecting information

Besides observation, talking to people is another good way of collecting information. Many of the children who belong to the Eco-group Network have conducted interviews with people in their local communities as a means of collecting information on various natural resources. Though Green Sprout did not conduct such interviews, we were also able to gather useful and interesting information from people around us. For example, we learned which medicinal plant is effective for injuries children get when playing, or that applying mustard oil on the body and inside the ears before swimming will protect the skin and prevent colds.

There are various ways of doing interviews. Preparing an interview sheet beforehand is a good idea, but simply remembering to ask people 'What' and 'Why' questions will also help you glean interesting bits of information. Suppose you are collecting information on trees. You can just ask people, "***What*** tree do you like the most?" And follow this up with, "***Why*** do you like that tree so much?" People usually want to plant their favourite trees, and are more familiar with trees that are commonly observed nearby. So, when you compile the results provided by simple questions like these as a field survey, you may get some interesting information about local natural resources.

Green Sprout was not able to reach such a conclusion, but Shantonu and Manosi did actually conduct occasional interviews when they visited the NGO where I work. As I mentioned before, there is no one at home to look after the children, so I sometimes had to bring them along with me to work. This was especially true when they were still small (up to around Classes 5 and 6).

Rather than just sitting around waiting for me to finish my work, I often encouraged the two of them to go around and ask simple questions to some of the office staff. Most of the staff kindly cooperated by answering their questions, and alleviating the children's boredom (I made it clear that they needed to be careful about not disturbing the work of the people they were interviewing).

The results of this office survey appeared in *Children's Magazine* and were shared with those people who answered their questions.

So now, I am just dying to ask you, "What is *your* favourite insect? And why?"

See interviews about 'Trees' and 'Insects' in *Children's Magazine*, page 153 & page 161

Green Sprout and Hindu Gods – A part of local resources

Although I have somehow come to understand that life here revolves around various Hindu festivals and ceremonies, I must admit that during the first two to three years, I was unable to keep track of each occasion. You'd often find me exclaiming something like, "What!? *ANOTHER* school holiday? What festival is it this time?"

In addition to all the celebrations for the many Hindu gods, people celebrate Muslim and Christian festivals with equal ardour. This all adds up to a lot of days off – and I wasn't always sure what would happen on those particular days. Since my husband is perpetually at work, and is not strict about religion, I relied on neighbours and relatives in Kolkata to remind me about these events – simple things like when and how to celebrate which festivals.

It was not easy to tackle Hindu gods and goddesses who are known to change into a number of different incarnations. Though I still do not fully understand Hindu mythology, some of the gods and goddesses and their stories, have become more recognisable to me through my experiences over the last ten years. Green

Sprout members felt that Hindu gods are a kind of 'local resource' because they reflect the seasons, food habits, and the way of life here.

Among the various Hindu gods, our family's favourite has always been Ganesha. There is no particular reason, but we like him. As you know, Ganesha has an elephant head and a pot-bellied human body. Shantonu and Manosi's father has a paunch similar to Ganesha's, the main difference being that the universe is held in Ganesha's belly. Big difference! Lord Ganesha is also said to have very good penmanship and likes a sweet called *laddu*. He even rides on a tiny mouse. When he was small, he was called Ganapati. It looks very cute when Ganapati tucks a flower behind his ear – he has a keen sense of fashion! He is more like a guardian than a god for us.

In India, different gods are popular in different regions. Let us see what kinds of gods appear on the stage here in West Bengal.

In December and January, people often enjoy the short period of cool, pleasant weather known as 'winter' by going out for picnics; so most Hindu gods take a back seat during this time. During this colder season, people shrink into their shawls and tend to become less active; it might be same for the gods.

Early in February, when the smell of spring is in the air and people start to relax more in the warm weather, goddess Saraswati is worshipped on the fifth day after the new moon. Saraswati is the goddess of learning and art. On that day, we celebrate in our home by placing a small idol of Saraswati in front of the Ganesha image. Each family member places a book and a pen in front of her, and presents her with a *puja* offering. Children pray to Saraswati, asking her to bless them with good learning in the coming year. Interestingly enough, children (not adults) are not allowed to read any books on this day. On the day following Saraswati Puja, we eat something called *gota sheddho* (*gota* means 'wholesome' or 'together', and *sheddho* means 'boiled' in Bengali), which is prepared the previous night. The reason for this is that custom states that we are not allowed to use cooking fire on that day until the sun sets. The reason for this is not clear, but custom is custom. *Gota sheddho* is prepared by boiling together various pulses and newly harvested vegetables such as potato, sweet potato, tomato,

eggplant, hyacinth bean and peas (all uncut and unpeeled). These boiled vegetables are mashed up together and a little bit of mustard oil and salt is mixed into them before eating. This preparation is good for health and is eaten as a celebration of Spring. Once this *puja* is over, the temperature seems to rise rapidly and we enter a hot Indian summer season. We pray to Lord Shiva about ten days after Saraswati Puja, on a festival known as Shivratri, or the night of Shiva.

Again in spring, this time on the first full-moon day of March, we celebrate the festival of Holi (or *Dhol*). Children enjoy this festival with their friends by running around pouring, spraying, smearing and dousing each other in coloured water and powder – they look like they are mad! I am not too eager to take part in this festival partly because the colours used are no longer natural colours, as they once were. But anyway, regardless of how toxic the colours are, Holi is celebrated without fail once a year, and kids seem to have a ball. The Bengali New Year then starts from the middle of April. Local grocery shops invite customers in and distribute sweets and newly printed Bengali calendars. Customers need to close up their account balances with the shops before the new year begins.

Till early June, the weather is humid and hot; and it is simply too hot to organize anything – let alone any kind of festival or *puja*. I'm sure the gods and goddesses must also feel the same.

Rainy season starts from mid-June, bringing some much-needed relief from the heat. Jagannath Puja is celebrated in July. Jagannath is considered to be the lord of the Universe and always appears as a trio, with brother Balaram and sister Subhadra. For this festival, a big chariot is pulled all the way from the next town, closing off the road to Chandernagore on the day of its coming and again one week later, when the big chariot leaves. It is nice to see small children too, pulling on the street little models of the wooden chariot that carries Lord Jagannath. Various flowers, ornaments and fruit tree seedlings are sold on the roadside, reminding us that it is a good season to start gardening, if one has not already started.

When the monsoon begins to abate in the latter part of August, we have the Rakhi festival in which sisters tie colourful

strings on the wrists of their brothers to protect them. Brothers usually include cousin-brothers and close family friends too. Eight days after Rakhi, there is a celebration for Lord Krishna's birth so schools again have a holiday on that day!

Gradually, the cloudy skies get clearer and clearer, a sure sign that the rainy season is on its way out. From the end of August to the beginning of September, children, and even adults, fly kites. This is the time of year that the Vishvakarma Puja takes place. Vishvakarma is the god of machines and tools, and therefore cycle rickshaw pullers, bus drivers, carpenters, and small-scale factories, in particular, celebrate this *puja.* But at the domestic level, as a show of respect to Vishvakarma, people clean all kinds of domestic metal and electronic items and appliances. Shantonu and Manosi make the effort to clean their bicycles and offer flowers on this day, and they say a prayer. This *puja* reminds us that gods exist in each and every thing, and that we need to take care of the items we use, which give service to us. This kind of wise-use attitude can contribute to reduction of waste, and in this context, I think Vishvakarma makes a contribution to eco-life, too.

As we enter the month of October, the real major *puja* season starts. Most people throughout Bengal are already in holiday; festival mode. Durga Puja, the biggest festival of all in this region, is celebrated for a total of ten days in October. Goddess Durga is called *Ma Durga,* which means Mother goddess. It is said that during this *puja, Ma Durga* returns to her parent's home (Earth) from the home of her husband at the top of the Himalayas (Heaven). During this season, married women, especially young ones, return to the home of their parents and are pampered by their families. In preparation for Durga Puja, people become busy, shopping for new clothes and shoes. It is customary for people to celebrate *Ma Durga* by getting dressed up in their new clothes. I think this is a smart way to control over-consumption because people here tend to refrain from a lot of buying during other seasons. For people in the so-called developed countries, like Japan, shopping has actually become a form of recreation. People tend to buy a lot of unnecessary things, all the while blaming themselves for 'over-consumption', but making little effort to control the shopping urge.

A few weeks after Durga Puja comes Lakshmi Puja, Kali Puja and Diwali – one after the other into the month of November. Lakshmi is the goddess of prosperity; and Kali is a dark goddess with a very uniquely scary look about her. On the night before Diwali, people light fourteen candles in their home and they eat fourteen different types of green leaves, *choddo saag*, or at least they are supposed to. Nowadays, people do not know exactly which fourteen green leaves they are prescribed to eat, so they get a small bunch of various leafy vegetables from a vegetable seller. Since most of these leaves are known to have high nutritional and/or medicinal values, this must have been a traditional way for staying healthy. The night of Diwali is very beautiful with all of the houses decorated with candles and small lights, and people also enjoy fireworks. About three days after Diwali, we celebrate *Bhai phonta.* On this day, sisters apply a *phonta* (sandalwood mark) on the forehead of their *bhai* (brothers) to protect them. Manosi complains that most of the celebrations are for boys. Agreeing somewhat, I have explained to her that girls have mystical powers, so boys need to ask for protection from the girls.

A quick look around will show you that there are many Hindu gods and goddesses existing among us here. Even in a sleepy town like Chandernagore, people take part in various celebrations and festivals to welcome each god and goddess. It is very heartening to see people here treat gods and goddesses like their own relatives! At most of the small Kali and Shoni shrines located along the roadsides, people offer prayers every day. In winter, they are kept warm, covered up in shawls, just like us, and surprisingly, some small shrines have ceiling fans to keep the idol cool in summer! Hindu gods and goddesses belong to the people, and each one has a distinctive figure and character. That is why they are especially popular among children. Green Sprout invited many of these gods and goddesses for guest appearances in *Children's Magazine.* They look so happy to be close to us; and we are happy to have such rich resources surrounding us.

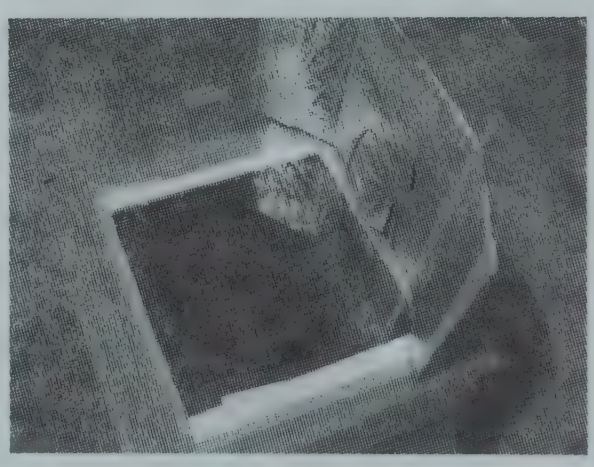
Do you know that gods and goddesses even play sports? See *Children's Magazine* pages 195 & 200. Also see page 112 on how we celebrate Vishwakarma Puja

From the Ganapati Bookshelf: Hindu Gods and Goddesses . . .

If you think that Hindu mythology is not interesting, try *The Broken Tusk: Stories of The Hindu GOD GANESHA* (Uma Krishnasawami, published by Rupa). This tells you about Ganesha and various other Hindu gods and goddesses in a simple and interesting way. You can learn more about Ganesha's family, and how Ganesha and Murga often fight over mangoes; why Ganesha has an elephant head; why he has a broken tusk; why he remained single; how he rides a tiny mouse . . .

Green Sprout Keeps Trying Out – Handmade solar cooker

We have plenty of sunlight here in India (often too much), and using a solar cooker is an interesting way to make use of it. I have been using a manufactured box-type solar cooker at home. If you set your rice and dal (pulses) in the solar cooker in the morning, they will be ready by lunch time. The only tricky part is that you must adjust the direction of the mirror according to the sun's position, you are then solar cooking efficiently – it also saves time and energy. It is almost magical, in fact. I have a personal wish for this simple solar cooking technology to spread throughout the rural areas where people are dependent upon firewood and organic fuels for cooking. It is a suitable way for people in rural areas to save much effort and time spent collecting fuel sources. But unfortunately, solar cookers are not popular here. There are numerous reasons for this: the preferred cooking style here is frying, not boiling; because a solar cooker costs more than a bicycle; a solar cooker is, moreover, too heavy to be carried; and of course, a solar cooker is less efficient or unsuitable for indoor use, or on cloudy, monsoon days.



It is quite easy to make your own solar cooker. After learning about the principles behind solar cooking at an eco-

work camp, Green Sprout tried it out. Besides my children, one of Shantonu's friends also lent a hand, and soon, this trio was hard at work. Apparently, if they were successful, they were concocting a plan to sell their solar cookers to neighbours with the guarantee that they would minimise the use of LP gas. They started out by searching for a suitable design on the Internet, and soon came up with the Minimum Solar Cooker, that basically consists of two cardboard boxes and some aluminium foil. After collecting the required materials, as well as making their own glue by boiling flour with water (I was impressed by this move to cut down on expenses), the solar box was soon made. When I looked at the solar cooker the following day, however, it had been vandalised by rats! They had gone for the white flour glue, tearing the box apart completely in the process. Their experiment, it would seem, had failed. It was bad luck for the children, but we can only laugh about and be impressed by the courageous rat and its hearty appetite! We later came to know that a little copper sulphate mixed in with the flour glue would prevent such attacks by rats and insects.

To make matters worse, both Shantonu and Manosi contracted jaundice soon after, a further disruption for this project. But even with these disruptions, they continued with their solar cooker experiments for the next year or so. Though their handmade solar cooker looked like an ordinary cardboard box at a glance, this 'box' could somehow cook food! Of course, the cooking time using their box was longer than that of the manufactured cooker, but the children were able to cook rice (sometimes it came out a bit under-cooked) and boil potatoes (sometimes a bit hard, so I added them to other dishes after a bit more cooking) for our lunch.

As a parent, I feel that watching children try hard at something and persist at it is priceless. I would never discourage them by commenting on the situation like, "It's nearly 40 degrees outside, so rice and potatoes can be cooked naturally even without a solar cooker," unless the children themselves figured it out (which they did). I refrained from complaining about the mess in the room, with various

construction materials for the solar cooker all scattered about, at least until they were finished working – because it was difficult to distinguish by myself which bits were waste, and which bits were still needed.

One day, during lunch time, as we were eating our slightly undercooked rice (prepared by the Minimum Solar Cooker), the Green Sprout adviser told us about an alternative idea he had in his head: "How about putting rice and water into a black-coloured container and keeping it inside a plastic packet, sealed tightly to prevent air from escaping and just leave it on the roof." His suggestion sounded like a joke to me, but the children did not take it lightly. They nodded seriously to declare that the idea might be worth experimenting with. Their enthusiasm made me believe the idea might be a possibility, though we never did actually try this one out.

When Shantonu entered Class 10, he made a new-and-improved version of the Minimum Solar Cooker for his school science project. Generally, students in Class 10 are busy with their studies, as they diligently prepare for their board examinations. Most of the students would not put much effort into this kind of time-consuming science project. Shantonu told me that very few students in the whole school actually participated in this science exhibition. Among the few projects that were contributed, most of the teachers did not seem very impressed by the Minimal Solar Cooker, which looked like an ordinary cardboard box. They were surely expecting much more sophisticated items for the big science show. I couldn't help but notice that Shantonu looked a bit disappointed. But he was alright. I was not in the least upset or shocked by the attitude of the teachers at school. I had grown used to this after ten years of the same thing. Green Sprout understands the potential this 'box' has, and we did not bother our heads about the responses of others, including the teachers. So we just keep on experimenting, without any regard for what is praiseworthy; and I will tell you, the sun shines on us most of the time.

You too can make your own solar cooker. See page 120

Green Sprout and Language – Tips on resource management

As Manosi was entering Class 1 in primary school, I heaved a great sigh upon realizing that literacy does not start from age 6 (Class 1) here but much earlier, from nursery school. Though my husband and I feel that this focus on literacy at such an early age is not necessary and may sometimes even be detrimental to the development of a child, we had to adjust to this system. My husband made various kinds of flashcards in both English and Bengali for our children. At first, they both had a bit of a struggle at school, since neither Shantonu nor Manosi had learned their ABCs beforehand.

For example, once Manosi, a fresh primary school pupil in Class 1 (one who did not know her ABCs yet, mind you), brought home her English homework on converting nouns into adjectives. Though I could easily guess that my daughter did not understand this homework, I needed to encourage her to finish it.

"Look, it's wind – windy, cloud – cloudy, rain – rainy . . . If you add 'y' after each word, it becomes a descriptive word. When the wind blows, the situation is called 'windy'. You know. Many clouds and then the sky looks 'cloudy' . . ."

I explained it to her by drawing pictures and acting out each word with great gusto. Manosi seemed to understand and started doing the homework by herself; and I resumed my cooking. After a while, Manosi declared that she had finished her homework. I went to her and looked at her notebook. Her giant letters written in pencil, were like a work of art unto themselves. I started checking the words one by one.

"Hmm . . .!?" I was suddenly astonished – impressed – pleased when I saw, *ice–ice cream.*

I burst out laughing, now understanding why she had asked me for the spelling of 'cream' earlier when I was cooking. For her, a situation that would be described as having 'lots of ice' was 'ice cream'! I thought back to a few weeks ago when we were eating out at a restaurant and Manosi had to miss out since she had a minor cold. Grammatically, her work was not done correctly, but

I really wished that the adjective form of 'ice' could actually be 'ice cream' because I didn't like to block her imagination.

I think anybody who has ever started to learn a new language has had this kind of experience. Children, of course, seem to pick up languages much faster than adults. My children became better than me in English and Bengali by the time they reached Classes 5 and 6. Learning a new language is certainly a tough task, but if you learn more languages, you will find that you encounter a wider range of interesting experiences. People here speak more than two or three languages. This is a fact that reflects the diversity of India, where each state has a different language. In a situation like this, language is not merely a subject to learn in school, but a tool required for every day life. We need to be able to communicate with others, even if our pronunciation is a bit strange, or our grammar is not exactly perfect.

Like any other kind of tool we might utilize, language skills must also get polished and maintained through constant practice. The more we use a language, the more familiar it becomes to us. Think of it this way: my children learned Bengali as a subject in school, but they polished it mainly by hanging out with friends in the neighbourhood. Fortunately or unfortunately, because we use Japanese at home, my progress in Bengali was very slow. In my case, it was gradually polished by listening to other people's conversations on the trains and at the office. At times, I was deeply impressed with new words and sentences I encountered. For instance, it was interesting for me to discover that many plants and animals are used figuratively in Bengali.

Once as I was standing in a long queue to pay the water tax bill, I overheard an anguished gentleman say, "Oof. They make the 'humans' stand here meaninglessly like *chagol* (goats)!" There is an indigenous fish called *koi maach (climbing perch)*, which is said to be so strong it can survive even if it is deep-fried in hot oil. So, some people say that, "girls are as strong as *koi maach*!" A terribly messy situation is described as "*gobor* (cow dung) stuck to a cow's tail!" These expressions are used to help state things in a clearer way – and definitely make the meaning more vivid. They can also help to cultivate an interest in the surrounding animals and plants being used in a figurative way.

With this thought in mind, Green Sprout loves looking into languages – and discovering how language is so closely connected to people and natural resources in our locality. Once you grasp hold of a new expression, you have got to try using it. So next time you are just standing there waiting in a long line (an experience you will have plenty of here), try saying in Bengali,

". . . *Hawa khacchi* (Yeah, I am just eating air)."

You will really feel that you belong in this society, and any irritation you may have will soon be tamed. Like any other natural resource, language also needs to be used effectively to bring about a positive result.

See also examples on page 128

Green Sprout on a New Journey

Green Sprout Tries Ecological Thinking

Many people think of Japan as one of the world's richest and most advanced countries. When we first shifted here, people who came to know that I was from Japan expressed their praise for Japan with words they knew: Honda! Toyota! Suzuki! They then continued with their point, saying, "on the other hand, our India is still not developed; it is still poor . . ." I usually replied, ". . . Well, Japan has its own difficulties and problems too. I think you will find that the situation there is actually not as good as you might think."

We often encounter newspaper reports about strange incidents taking place in Japan, and many Japanese visitors and friends express their concern about their mother country. For example, one serious social problem that has swept the nation is the number of school-refusers – children who don't want to go to school – has been steadily increasing in Japan. We wondered how this could be when Japan has such good school facilities and education is totally free up to Class 9. The main reason appears to be that bullying amongst children has become more and more serious.

We rarely hear these kinds of reports about Japan here in India. In the case of my children, however, though they don't have much fun in class, they go to school everyday without much complaint. My children actually seem to like their school life. I

think they have a lot of fun with their friends there, despite the excess of examinations. So what is the difference between Japan and India? Shantonu reflected on this and commented that though there are too many students in his school, with 50 children in his own class, if they all cooperate with each other, they somehow manage quite well. No doubt, fights sometimes break out, but there doesn't seem to be any deep seated ill-treatment or tormenting going on among the children.

Shantonu used the word 'many', which I suppose also implies 'various'. There are diverse types of schools here in India, some run by the government, others by missionaries, private institutions, NGOs, or even individuals. There are expensive schools, quite affordable schools, and schools that are free of cost. Some schools have air-conditioned classrooms, while some schools have outdoor classrooms under trees. Every day, a wide variety of children spend time together in one classroom: Sikh boys, Muslim boys, boys of Chinese origin, boys from other Indian states, and even half-Japanese/half-Indian boys, like my son. This diversity is seen not only in schools, but in the communities here too. Though Chandernagore is not a village, but a well-maintained suburb, some children here start working in shops just after finishing their Class 4 or 5 studies. Some children start their own businesses when they finish Class 11 or 12. They might have financial constraints, but nobody in the community minds, or looks down on them. I feel that people here fully recognize that each and every person is different and faces different situations, so people have a high tolerance level for differences and diversity.

It is widely recognised that this diversity is a key component of Indian culture. Interestingly, diversity is also a vital factor in ecology. Ecology is the study of the relationships between living and non-living things in our surroundings. We can learn to respect each element and each relationship by studying ecology. The concepts that 'everything is connected' and 'everything has a function and value', are the basic principles that ecology teaches us. It also teaches us that the more diversity present in any ecosystem, the more balanced it is. Maybe, more diversified societies and communities are also more balanced? The classrooms of India certainly have more diversity than those of Japan.

Like this, ecological thinking can be applied to our day-to-day living experiences on a much wider canvas, and could actually provide us with refreshingly positive views for creating approaches to 'sustainable development' in our societies as well. You may think this is all a bit too difficult to fathom, or even unnecessary. But, I feel that as global citizens, reducing the various burdens on our living planet is one of our main duties. Put quite simply, we cannot use up all the Earth's natural resources for our own generation. Sustainable development is based on everybody's daily life – and life style – the way we live and what we consume. So all of us, both children and adults, need to take responsibility, don't we?

How can we contribute towards an environmentally friendly and sustainable society? Let me share some ideas my children and I have embraced after attending the NGO workshops my husband organized over the years. Referring back to these points from time to time may be helpful to you too – as you develop your own personal model of global citizenship.

Sustainable Development Principles Reflecting an Ecological Viewpoint:

- ***Every component has multiple uses/functions***

This principle can be applied to:
— Recycling and reusing.
— Gardening with plants that have various uses.
— Recognizing the multiple roles of each person.
Children themselves have various roles. Encourage each child to think and act as a family member, local community member, producer of food through gardening, young citizen, etc.

- ***Every function should be served by more than one element***

This principle helps us build more balanced structures that have the capacity to survive. It means that even when one element is not functioning properly another element will take up the task and function in its place. For example, if you grow various types of vegetables, rather than just one or two, your garden will be much more ecologically balanced and resistant to insect attacks.

If you are seeking some information, you had better collect from various sources, rather than just one or two, so you can formulate a balanced opinion on the subject.

- ***The meeting-point effect***

This principle is also known as the 'edge effect', and is adopted from *Permaculture.* The meeting point of different ecosystems is the richest in biodiversity. For example, the edge of a pond is the meeting point for the water body and the land, so a wide range of life forms exist right there. In a similar way, meeting people from different cultures and backgrounds or exploring new experiences is bound to bring about an enrichening social 'edge effect'.

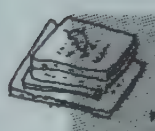
- ***Use of renewable resources***

We all know that there are limits to the amount of fossil energy available. It is our duty as global citizens to use energy sources carefully, and to conserve wherever possible. We also need to maximise the generation and use of alternative and renewable energy sources such as the sun, the wind, water streams, animal power, and plants. An over-mechanized system which consumes the limited fossil energy available may not always be more 'advanced,' but rather it may be 'backward' – when we think in terms of energy conservation. So we shouldn't think we are more developed just because machines are doing all the work for us. Alternative technologies, or appropriate technologies, are as important and valuable as advanced technologies.

- ***Problems hold potential***

Instead of forcibly changing a situation, try finding out what the maximum possibilities within it are. This can be one wise way to solve problems. I mean to say that you need to think of the so-called difficulties/obstacles/problems as your resources. For example, you can get a lot of information from the weeds in your garden. They shouldn't just be considered as obstacles. In fact, weeds will tell you the kind of soil your garden has, what vegetables can be grown there without too many insect problems, etc. If, in

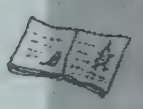
another context, you find there is something on a personal level which you cannot do or manage right now, it may mean that you have the potential to do it or manage it later in the future. Let's try thinking in terms of '*what can be*', beyond '*what is*'.



From the Ganapati bookshelf:
Titles for living and thinking ecologically and creatively

After having read *A Children's Food Forest* (by Carolyn Nuttall, FeFL Books), you will feel eager to start a garden at your home or in your school yard. With fantastic illustrations, this book provides various ideas for initiatives to learn creatively and ecologically through innovative garden projects for both children and adults.

The cover page of our copy of *Free From School* (by Rahul Alvares, published by Other India Press) is tattered because Shantonu has read this book more than 10 times. Author Rahul loves snakes, and when he finished Class 10, he took a one-year leave from school, and travelled to various places to visit experts on snakes, crocodiles, and ecological agriculture. His parents encouraged this idea on the condition that he write his diary every day during this period. A one-year leave from a formal education system may still seem adventurous and courageous. On the other hand, more than ever before, parents like Rahul's, feel that children cannot really find meaningful learning in the present formal school system. This book is a good example of an alternative. Rahul's second book, *The Call of the Snake: Real Life Stories by a Young Snake Catcher from Goa* provides factual correct information about snakes, along with funny and real episodes.

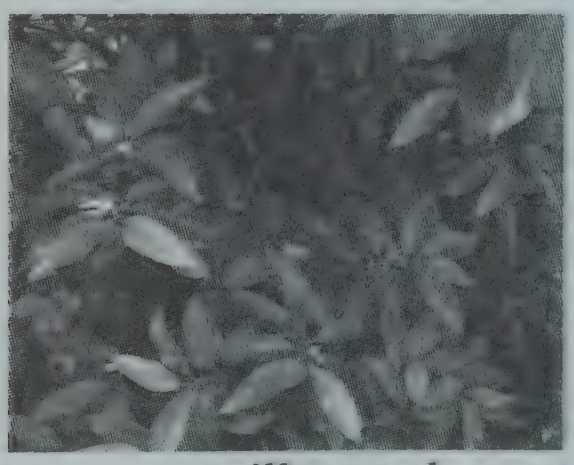


Edward de Bono is very famous for spreading creative thinking through his parallel thinking, lateral thinking, 6-hats technique, etc. There are many books written by de Bono on 'thinking'. and though I have not read all of them, his *How to Have a Beautiful Mind* (published by Vermilion) might be easy for all family members to start thinking about 'thinking'. Of course, we cannot have a beautiful mind just by reading this book, we also need practice and training.

If the number of school-refusers keeps increasing, then perhaps the school system itself has some problem, not the children. To re-evaluate and improve the system, thinking ecologically may be one way of solving this problem. It is not only adults who are able to contribute to ecological thinking, but children as well. There are many examples where ideas that came from children have eventually created new products or solved social problems.

One more important thing to always keep in mind is that thinking is a skill that we can acquire and improve upon through practice and training – just like any other skill! This is what Edward De Bono says, and he goes on to add that if we practise thinking using various techniques, anybody can learn to think creatively. Doesn't this sound good to you? When I proposed establishing a 'Thinking Club' in our home, my children rejected the idea immediately, *thinking* that I would create more confusion. "We have enough chaos already," they said. Laughing, one of my friends told me that I should go ahead with the idea because, after all, the main work of any mother is to create stimulative chaos for her children! In the end, we never started our Thinking Club, but Green Sprout members try to keep these tips for thinking ecologically and creatively in the corners of our minds. These concepts might be helpful for all of us – when we are in the midst of the chaos of daily life here, really just one tiny corner of the earth.

Green Sprout Sets Off on a New Journey



As I write this, it will soon be April 2007 – spring!

It's time for a new start.

I think our home-based, eco-activities are nearing the conclusion of one chapter of our lives. Perhaps it's just another chapter, but I feel my teenagers have their own interests and directions now. After completing Class 10, Shantonu will soon leave to study ecological agriculture at a high school in Japan. Manosi will be in Class 8. She loves pop and rock music very much. Our garden, once fondly known as Young Bean Garden, has taken on a very wild look, with tall jungley trees. The seed pods of the Bahunia break open and spread their seeds, making a sound like small pebbles falling on the ground.

The children's father is busy as usual, and is away from the house most of the time. Thanks to Green Sprout, I am able to manage working from home. The number of people who work from their homes is increasing nowadays. Certainly, this working style is time effective as you can manage your domestic work along with your job, and do not have to commute daily.

Looking back on the last ten years of my life, I would have to say that taking care of small children (ages 4-8) was thoroughly exhausting and required a lot of patience. Yes! I sometimes felt that going into an office was much easier than working from home. After all, in an office, you can work at a full stretch. But at home, you need to learn to utilize small snippets of time and work in stints. Working at home is also rather . . . lonely. Home-based, eco-activities helped me turn both of these two 'problems' into something positive. Through Green Sprout, I came to see my children as my assistants, supporters, partners, and even as reliable colleagues. I was so often encouraged by the children, and Green Sprout brought many funny experiences our way, many of which have turned into family stories.

So, "What will happen to Green Sprout?" I asked my children, sentimentally. They looked at me as if the answer was obvious. Their reply:

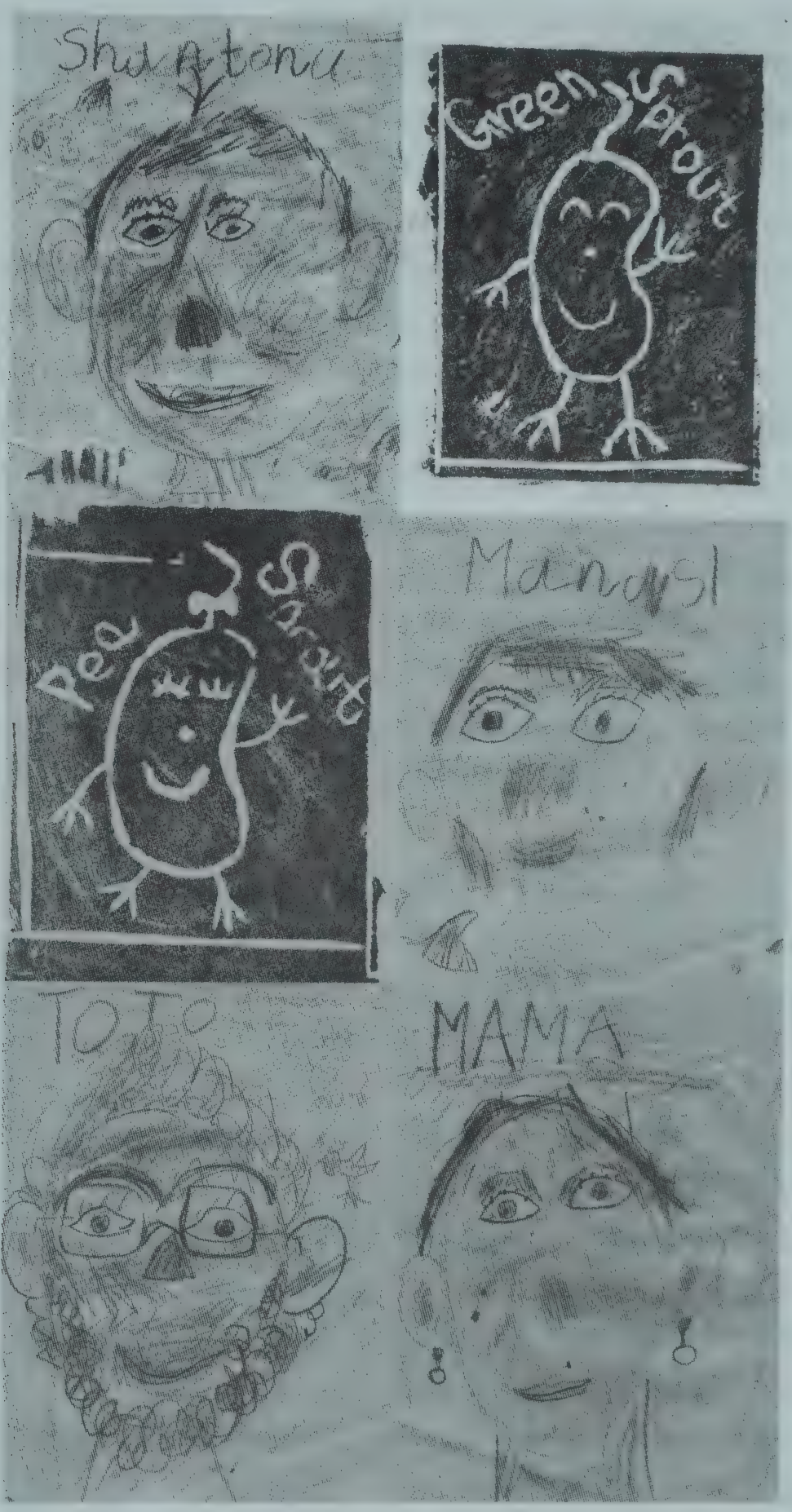
> *"You don't know? That is so simple. Green Sprout is a plant. It germinates from a tiny seed, then grows and becomes a mature plant and creates new seeds."*
> *"Oh, yes, yes. You are so right."*

Listening to their words, I put aside my sentiments as a mother who has watched her children grow up so quickly right in front of her eyes, and found a deep sense of encouragement. I had now gained two devoted colleagues, my own children.

Yes, Green Sprout is a bean and a sprout. As it is a plant, it spreads its roots throughout the soil – and grows – and makes new beans. These Green Sprout beans can be cooked as food or sown again as seeds. My children will sow their seeds wherever they are. You can sow your seed wherever you are. Green Sprout is certainly a bean, but also a spirit – a courageous, curious,

lovely spirit. The journey of Green Sprout continues, and will 'reincarnate' itself in different names and forms. And . . . Green Sprout might even drop in as a guest at your house. If so, please do say "Hello!" to your Green Sprout from us.

"See you later!"

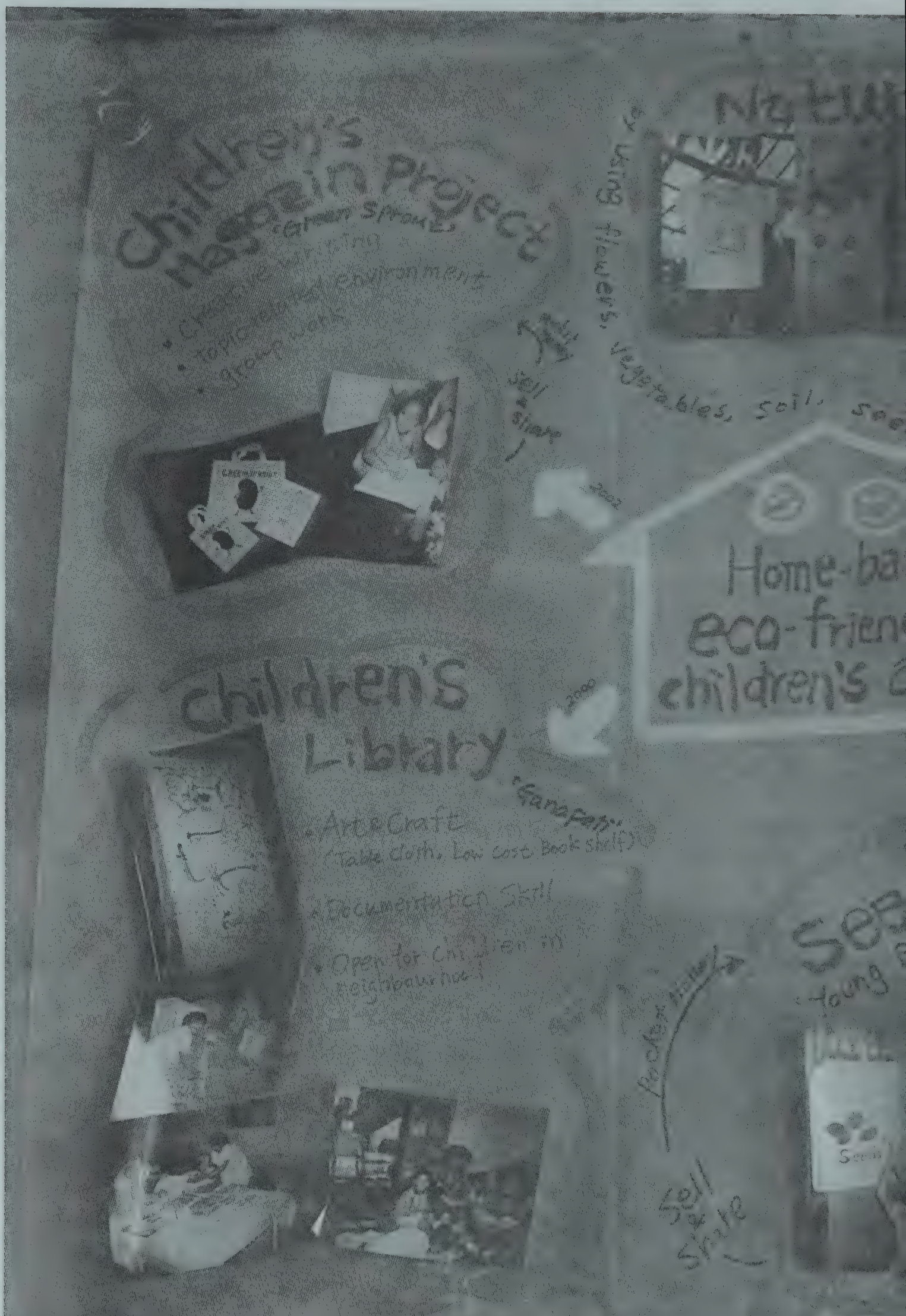


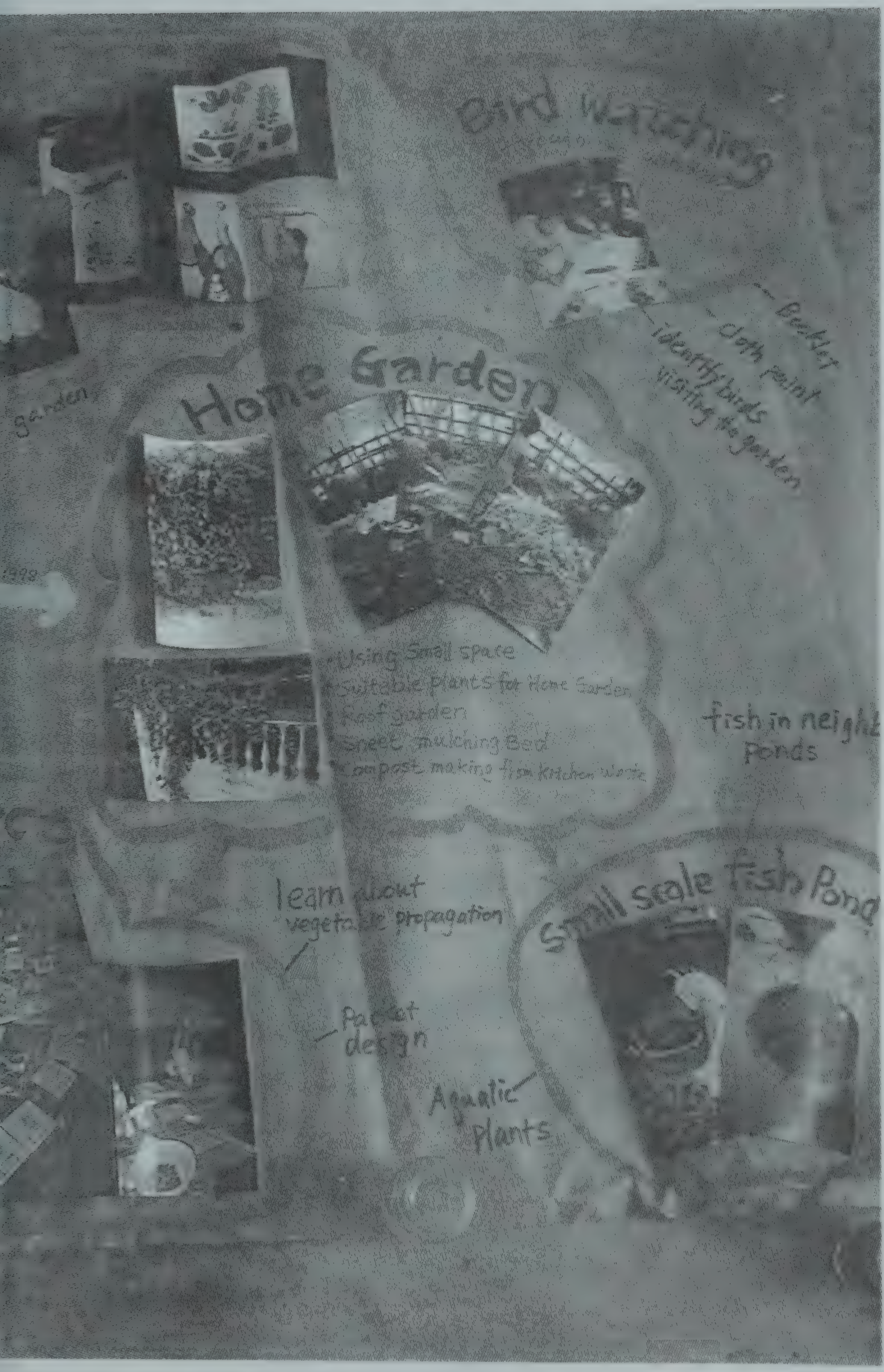
[Drawings by Shantonu]

PART II

Harvesting Ideas

– Activities of Green Sprout –


Children's Magazin Project
(Green Sprout)
Creative writing
Topic related environment
group work
Sell & share
Using flowers, vegetables, soil, see
Home-ba
eco-frien
children's
Children's Library
"Ganapati"
Art & Craft
(Table cloth, Low cost Book shelf)
Documentation Skill
Open for children in neighbourhood
Sell & share


Home Garden
Bird watching
Bucket
Cloth paint
Identify birds visiting the garden
Using small space
Suitable plants for Home Garden
Roof garden
Sweet mulching Bed
Compost making from kitchen waste
fish in neighb
Ponds
learn about
vegetative propagation
Small scale fish Pond
Pocket
design
Aquatic
Plants

Recycle & Conservation
- Handmade Solar Cooker
- 4R waste management
- Eco bag making
- Reuse grey water

Connecting with the Locality

2004

Pocket money

sell & share

information

Children's magazine Project
- environment & Life related topics
- Creative writing
- group work (editing meeting)

2002

2003

open to

Children in neighborhood

Children's Library 'Ganapati'
- documentation skill

Low cost bookshelf

ature Art
crafts with vegetables,
flowers, leaves,
afts

handmade booklet

Learning opportunity
- Bird watching
- observation insects
- Recording 'friend-tree

cloth chart

after harvest

Home garden
- Using small space
- Rooftop garden
- Sheet mulching bed
- Suitable plants for home garden
- Compost making from kitchen waste

exchange

Seed project
'Young Bean Garden'

Small scale fish pond

Profit management

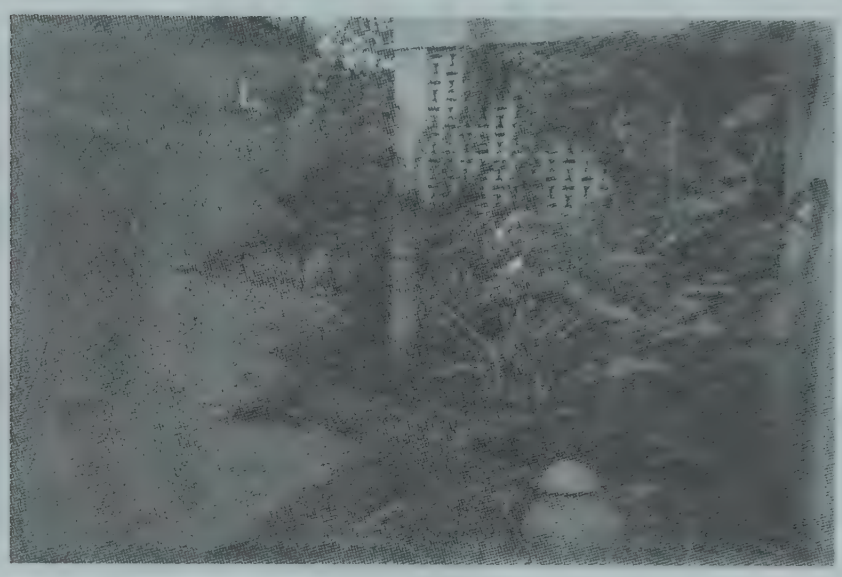
Seed saver

aquatic plant

Packet making

Networking with other eco-groups

Gardening



The Home Garden

Based on our Young Bean Garden and Green Sprout experiences, I would identify the more important aspects of home gardening with children to be:

— If you involve your children as food producers you can count on them to maintain the garden. Children are often much more capable than we expect them to be.
— Even a small harvest from the garden brings joy, you needn't focus too much on the nutritional aspect at first.
— Gardening work and various garden-based activities provide opportunities for fun and learning among children and parents.

Points for success:

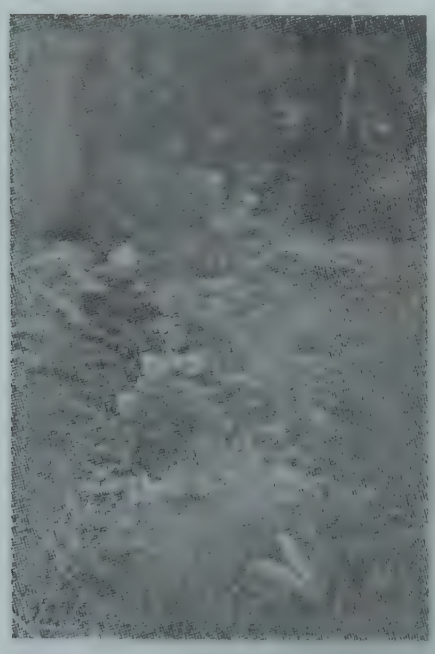
— Start on a small scale so that you and your children can manage it.
— Introduce new techniques one by one, and try them out. Don't try to do everything at once.
— Don't be afraid of failure and don't be disappointed at your own mistakes. It is all just part of the process, and you can always try again!

— Even if you do not have a garden space, gardening with children is possible using pots placed on a veranda or on window ledges.
— Use your imagination and innovative skills to suit your own garden and be sure to enjoy yourself.

Manageable single ring garden

From a practical point of view, I suggest you also first carefully observe and analyse your garden site before starting. Make a blueprint of the garden design you wish to achieve. Questions you might ask beforehand are:

- What kind of soil do I have?
- Where is my water source? How much water is available on a daily basis?
- In what direction does sunlight move about my garden space?
- Are there any shady places in the plot?
- In which direction does the slope go (entry and exit points of water)?
- What kinds of trees already exist on the site and its surroundings?
- Does the site need protection (i.e. fencing)?



Starting from small space

Plant various types of plants together (flowers, vegetables, herbs)

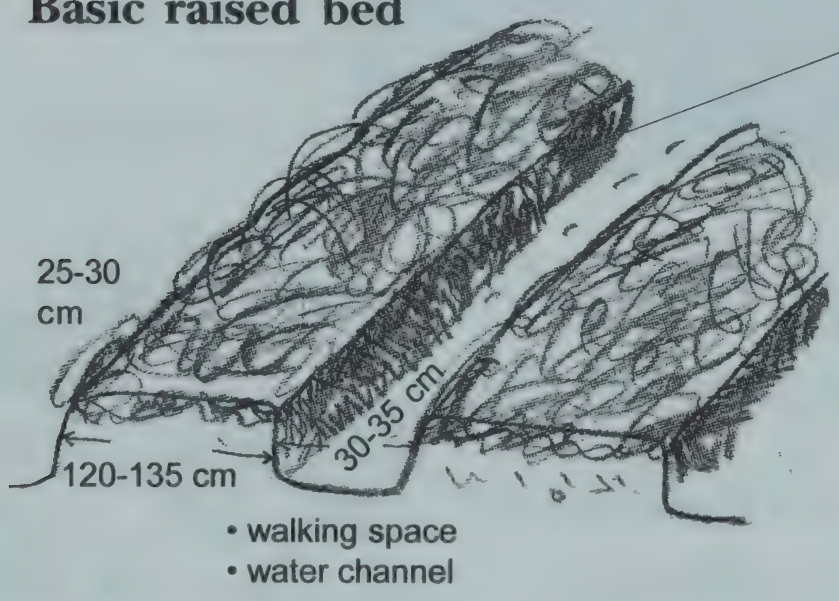
Even a small backyard can become a 'jungle' for children

Preparing a Vegetable Bed

Any vegetable garden needs to have a space for cultivating (the bed) and some other space for walking (a pathway) so that you never end up having to walk on the vegetable bed itself. You can try various types of vegetable beds, while remembering that the shape of the bed does not necessarily have to be square or rectangular. In small-scale gardens, wavy edges are often used to increase the available planting area. Children tend to enjoy this style more as well.

Sprinkle the area you have designated to be your vegetable bed with water one day before your work begins to make digging a bit easier.

Basic raised bed



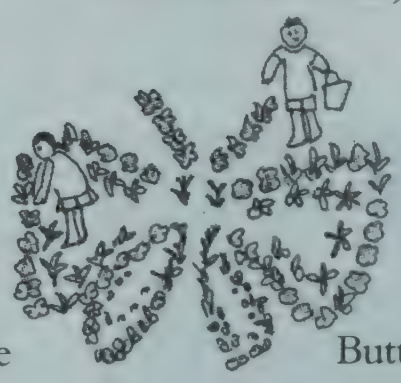
Mulching is to cover the soil surface with 10-15 cm or more of organic material such as dry green grass, tree leaves, etc. in order to:

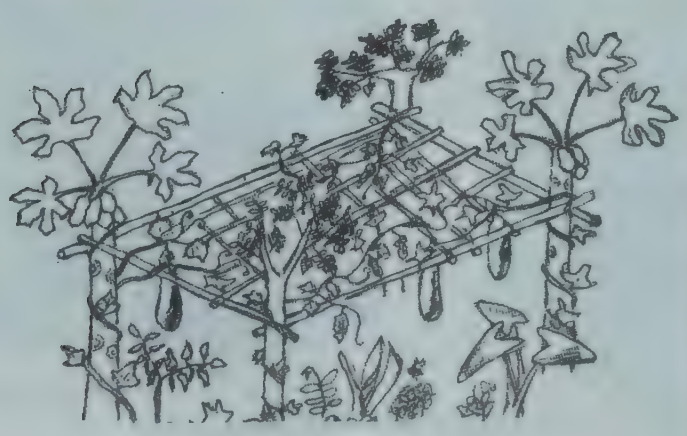
- add plant nutrient
- buffer soil temperatures
- prevent erosion
- promote soil life
- control weeds, etc.

Variety of shape

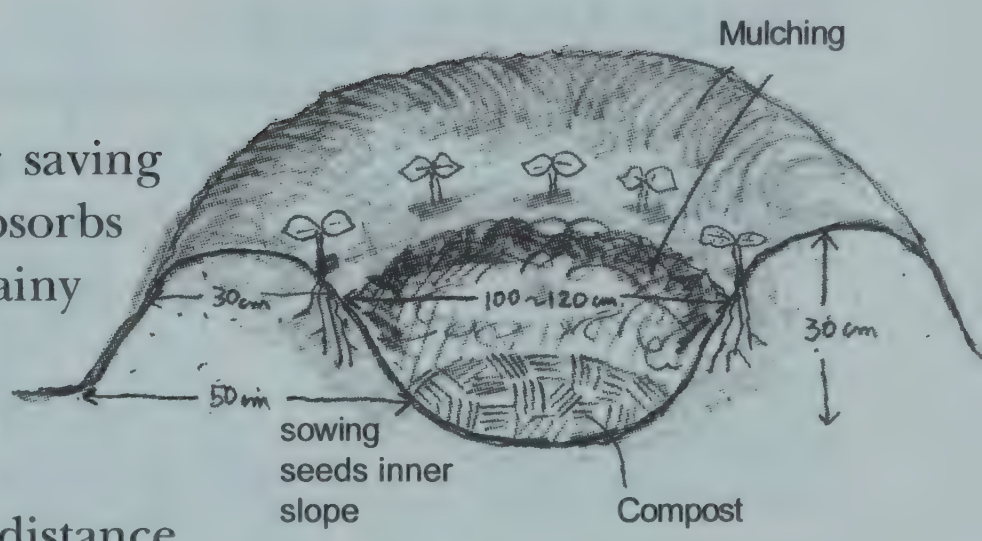
Wavy

Key hole


Butterfly


Increase vertical space

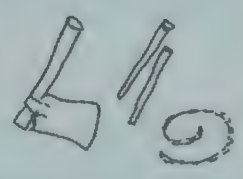
Circle Garden



A circle bed is useful for saving space and water, it also absorbs extra water during the rainy season. The diameter of a circle bed should be 1 m. In the case of several beds being set up together, the distance between the centres of each circle bed should be 2 m.

How to make a circle bed

You need 1 spade, 2 sticks and a rope (about 0.8 m)



1) Remove the weeds from the place where you want to situate your circle bed
2) Mark a circle by going round the centre point in a 0.5 m radius

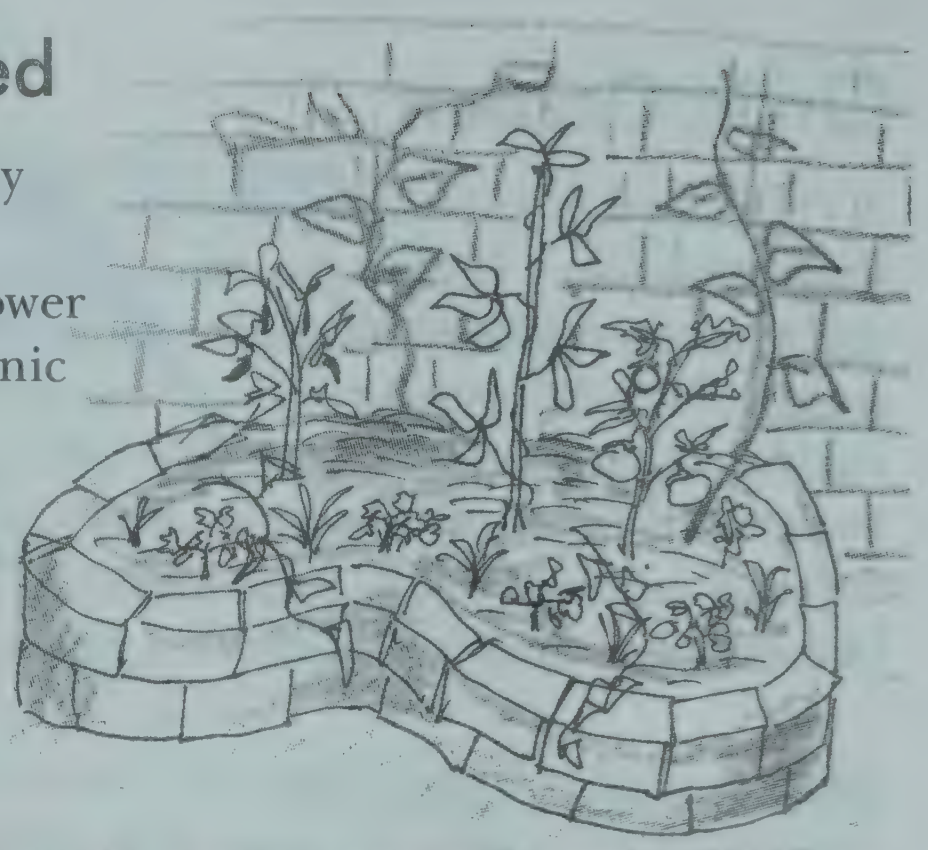
3) Loosen the soil outside the circle line
4) Dig the centre as a bowl, and put the soil excavated along the outer edge of the circle on top of the loosened surface.

5) Be careful to keep the shape of the circular bed. (a mountain-shaped mound with 30 cm width at the top and 50 cm width at the bottom plus 25-30 cm height)
6) Put compost and organic matter in the centre

7) Sow the seeds along the middle of the inner slope of the bed (Be careful not to sow on top!)
8) Mulch the entire mound
9) Water your circle bed gently

Later, you can plant a creeper vegetable, such as pumpkin, on the outer slope of the circle bed. You can also put kitchen waste into the centre of the bed from time to time. People say that plants grown in circle gardens grow better because they get to talk to each other! What do you think about that?

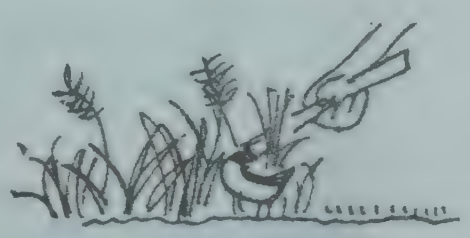
Sheet Mulch Bed



Sheet mulching is a very interesting method for creating a vegetable/flower garden using your organic waste. The nice thing about this method is that it does not require any 'hard work,' like turning or digging the soil, to build the garden.

To create the sheet-mulch garden, you will need a 35-45 cm layer of mulch, a much thicker layer than in ordinary mulching methods (p. 64), and all the layers should be thoroughly wet. Over the long term, a sheet-mulch garden is said to require less water than the normal 'hard work' kind of garden where you have to dig. You can make the size of your sheet-mulch bed according to the availability of your organic waste supply: dried and green grasses, leaves, straw, etc.

Here, I share step-by-step information from the book, *Earth Users Guide to Permaculture* (Kangaroo Press, 1993), written by Rosemary Morrow. Many years ago, I attended her Permaculture course, and I have been able to remember this method thanks to her inspiring teaching.

What to do	Why do it	What it looks like
• Slash long grass and weeds	• Clippings decompose and add organic matter to the soil	
• Wet whole area thoroughly	• Rain won't reach the soil through the layers	
• Add some agricultural lime (if necessary)	• Helps bind any heavy metals so they cannot be taken up by plants	

① Make the following layers : Soak paper, cardboard, underfelt or even old carpet. Lay overlapping sheets over the whole area

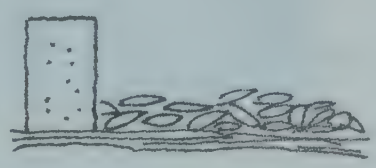
- Stops weeds and adds more organic matter to the soil

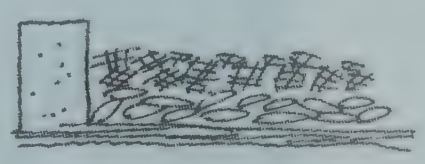
② Mark out a border with bricks or timber

- Shapes garden space

③ Throw any organic waste such as grass clippings, garden scraps or chopped weeds on the garden bed

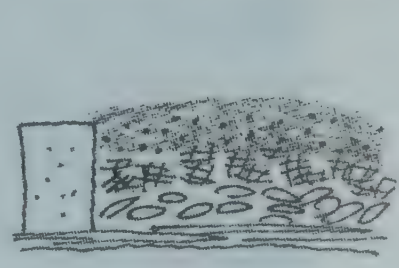
- It will also decompose and turn into humus





④ Add old hay or grass to make it 15 cm deep

- Gives more compost to turn into humus

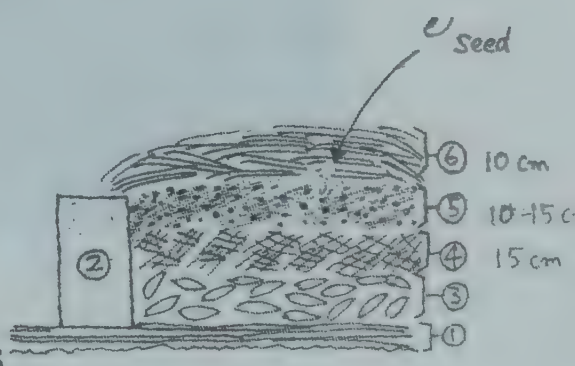


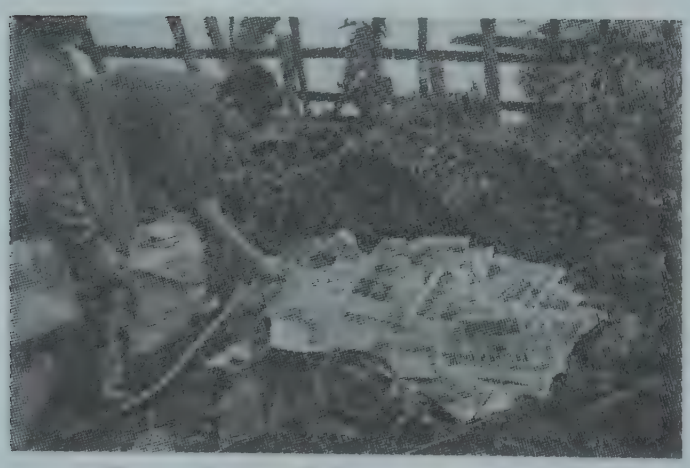
⑤ Add 10-15 cm of rotted manure, compost or mushroom compost

- Immediate source of plant nutrients

⑥ Add layer of clean weed free mulch (10 cm) such as straw, rice hulls

- Holds water in to retain volatile nutrients, protects seedlings, acts as soil temperature control





Easy for children to prepare

Easy for children to grow

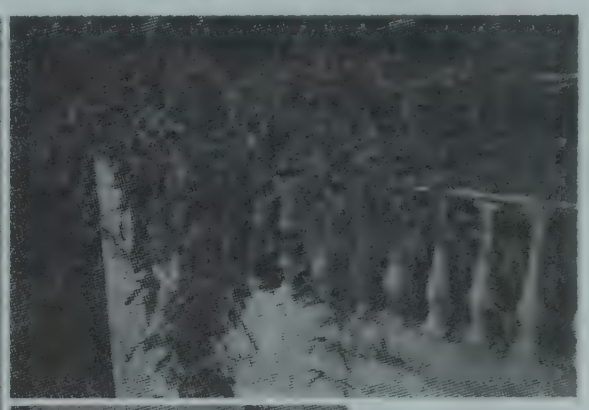
Rooftop Gardens

A rooftop garden is another good choice for easy and enjoyable gardening, and is especially well suited to urban households. We planted climbing plants, such as Winged beans, Yam, Gourd, Sword beans in the garden soil below. They easily climb the height of a two-storey building. Sometimes they became very bushy and out of control, but the children always had a nice place to play. On the roof we grow herbs and flowers in pots. Long vacations are a bit of a problem; when all family members go out for one or two weeks, the plants in the pots tend to dry up due to lack of water. We found that most of our climbing plants, grown in basement soil, have usually survived our holidays.

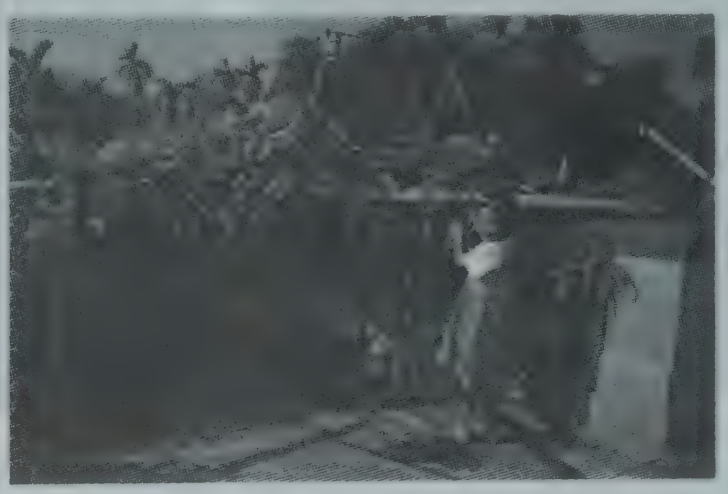
'Here you are!'

Sowing seeds in a narrow gap between fence and wall

Let plants climb to the roof



Simple way of framing to support the spreading plants



We made this kind of sturdy, more well structured frame later on

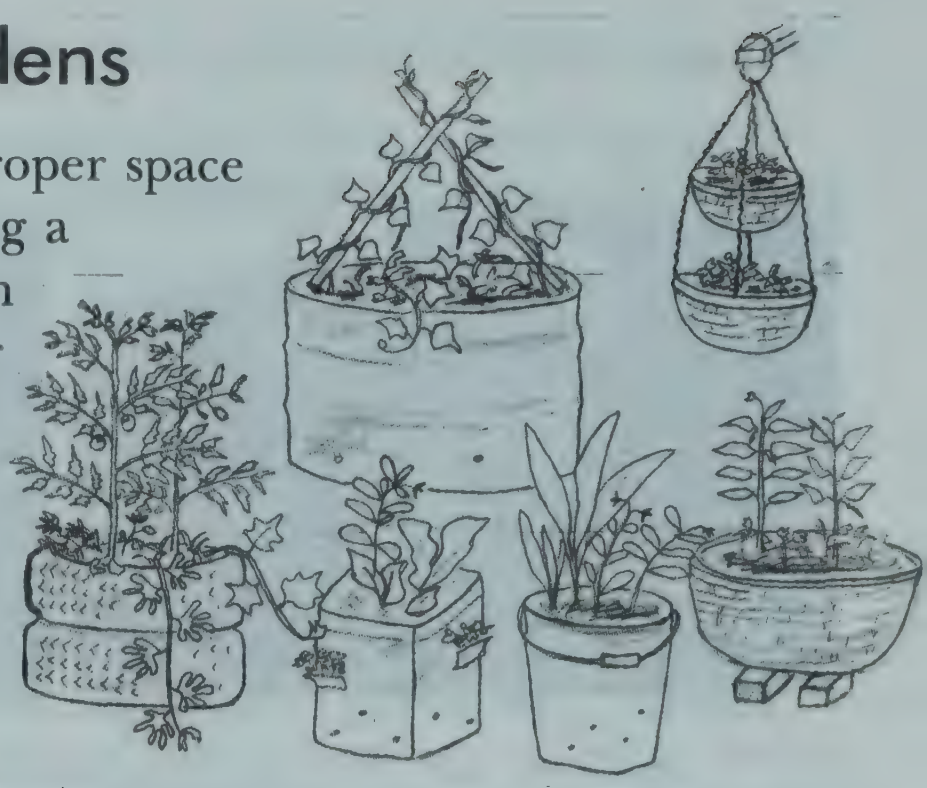
Good place for children – and langurs too!

The Winged bean is one of the most successful plants in our rooftop garden.

(Winged bean and Manosi, 1999 & 2007)

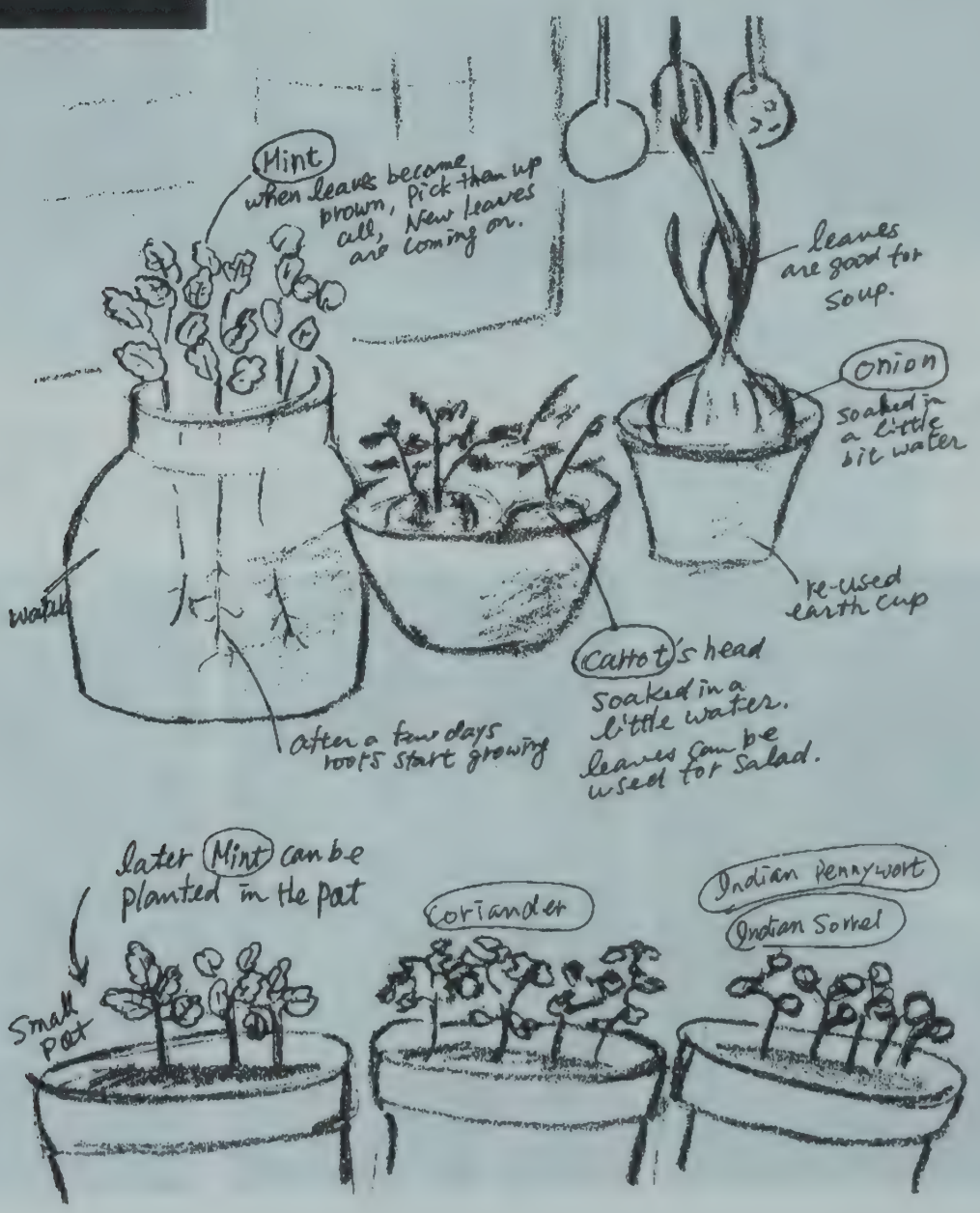
Container Gardens

If you do not have a proper space to garden in, try making a container garden, which is especially suitable for growing herbs and medicinal plants, as well as vegetables.



How about trying a mini-indoor kitchen garden by a window?

Planting climbing flowers, such as Butterfly pea (Aparajita) or Morning Glory, will provide you with a natural curtain for your veranda.


Mint
when leaves become brown, pick them up all, New leaves are coming on.
leaves are good for soup.
Onion
soaked in a little bit water
water
re-used earth cup
Carrot's head
soaked in a little water.
leaves can be used for salad.
after a few days roots start growing
later Mint can be planted in the pot
Small pot
Coriander
Indian Pennywort
Indian Sorrel

Suitable Plants for Home Garden

Ideally, if you grow 2-3 plants from each type of vegetable in the chart below, your home garden will be a well-balanced one.

Category of vegetables

Roots & Tubers	Leafy vegetables	Fruit vegetables	Beans & Legumes	Herbs & Spices
carrot	amaranth	bitter gourd	hyacinth bean	basil
cassava	ceylon spinach	cucumber	yardlong bean	mint
radish	jute leaf	egg plant	french bean	ginger
sweet potato	pumpkin leaf	lady's finger	sword bean	neem
taro	convolvulus (water spinach)	pumpkin	cluster bean	pennywort
elephant foot	sweet potato leaf	tomato	winged bean	lemon grass
coco yam	fenugreek	ridged gourd		curry leaf
		pointed gourd		corriander
		bottle gourd		

We have grown almost all of the vegetables in this chart, but our experience suggests that, for children, starting with bean and legume cultivation brings the most satisfaction. Beans are known as 'nitrogen fixers' and can be grown even in poor soil because they are able to manufacture their own fertilizer. They can be grown easily in a wide range of climates and soil conditions.

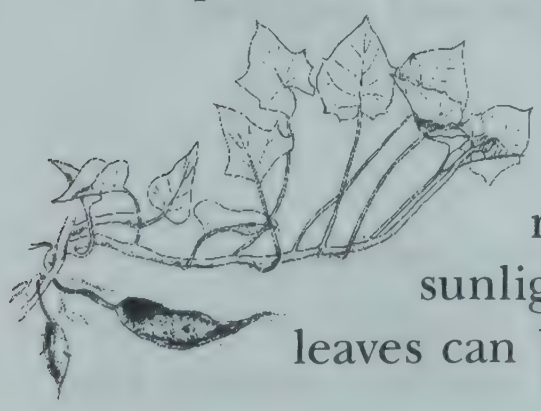
Winged bean (*Psophocarpus tetragonolobus*): A climbing plant with high drought tolerance, making it a good choice for a rooftop garden. The sowing season is in the early rainy season (around May-June), and harvesting starts around October, continuing for two months. Young seed pods can be cut into small pieces and lightly sautéed.

Sword bean (*Canavalia galdiata*): A climbing plant with high drought tolerance, also nice for rooftop gardening. The sowing season is in early-to-mid rainy season (May to July), and you can start harvesting young seed pods 4-5 months after sowing. Tender pods can be eaten as a vegetable, after boiling & mashing or stir-frying.

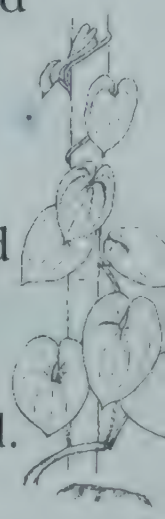
Cow pea (*Vigna unguiculata* ssp) Rice bean (*Vigna umbellate*) : These are close relatives of the Yardlong bean, but are bushier and with shorter pods. They have a higher drought and heat tolerance. Young seed pods can be used as a vegetable in stir-fried dishes. Mature seeds can be boiled and eaten as a snack.

Other easy-to-grow vegetables include

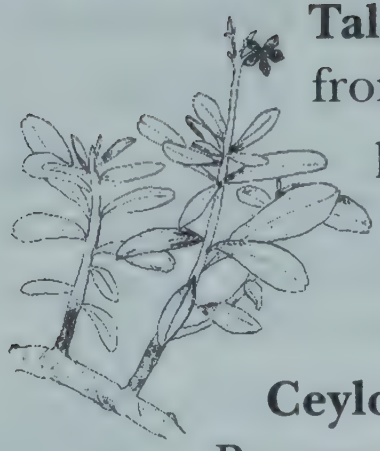
Cassava (*Manihot esculenta*) : Propagation is from cuttings. A 25-30cm long hard stem with 4-5 growing buds is planted vertically with slight inclination so that 2/3 of the cutting remains above soil. For good growth and yield the plant requires a high temperature and plenty of sunlight. Tubers become ready for harvest in 10-11 months. Cassava roots can be stored under the soil for a long time but once they are harvested, they must be processed within a day or two, to avoid poisoning.



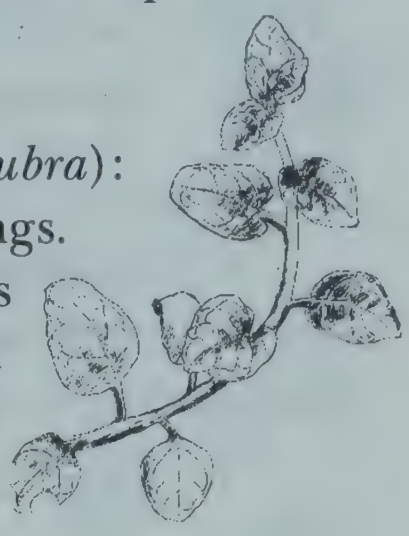
Sweet potato (*Ipomea batatas*): Propagation is from tuber or stem cuttings. The plant does not require much water but needs a lot of sunlight to produce tuber. Young shoots and leaves can be cooked as a vegetable.



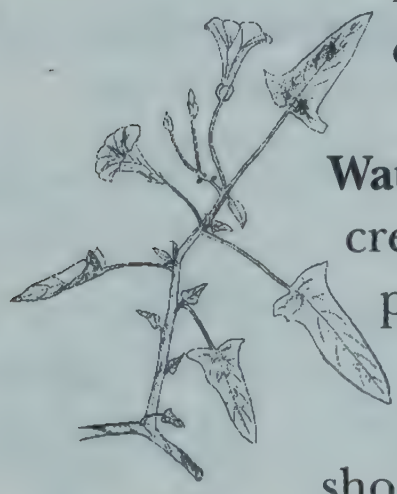
Lesser Yam : A climber with slender stems and a lot of foliage; grows upto more than 6m, making it another good choice for a rooftop garden. Pieces of tuber or aerial bulbs are planted during the early rainy season. Growth cycle is 8-10 months and it can tolerate a 2-month dry spell.



Talinum (*Talinum triangulare*): Propagation is from stem cuttings. Stays the whole year and has pretty pink coloured flowers. Leaves can be sautéed and eaten or added to soup to boost its nutrient value.

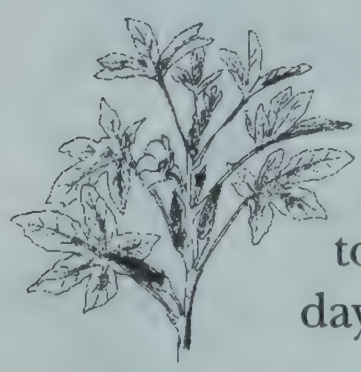


Ceylon spinach (*Basella alba or rubra*): Propagation is from seeds or stem cuttings. It can grow almost all the year round. The plants need some support to climb up and spread horizontally. Leaves and young shoots which are rich source of Vitamin A can be cooked and eaten.

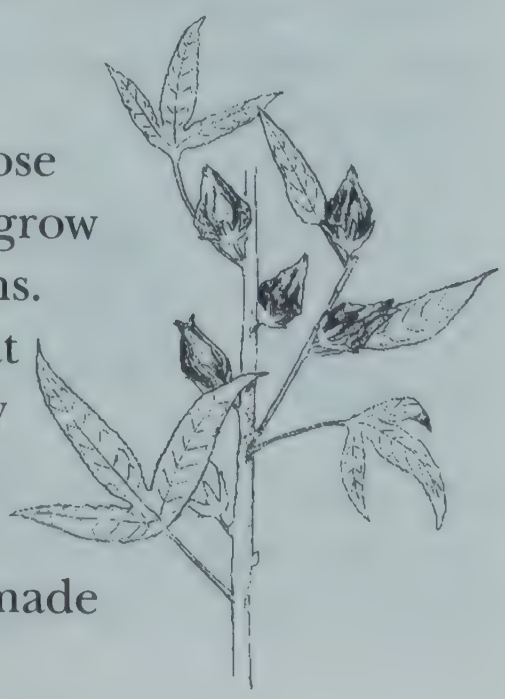


Water spinach (*Ipomoea aquatica*): This is a creeper plant and can grow on land. It is propagated by seeds and stem cuttings. Can be grown all year round, if water is available. Leaves and young shoots are sautéed and eaten.

Tomato : There are various types of tomato plants available. After sowing seeds, the small seedlings will need to be transplanted. Seedlings start after the rainy season and the plants grow in the winter season.



Lady's finger : Sow seeds from early summer to early season. Harvest can start 60-90 days after seeds are sown.

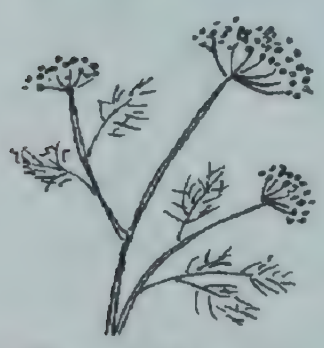


Roselle/Red sorrel (*Hibiscus sabdariffa*): A close relative of okra, kenaf, and cotton. Easy to grow with little water. Also has fewer pest problems. The plant is an attractive annual shrub that reaches a height of about 1.5m with pretty yellow flowers and red fruit. 3-4 plants are sufficient to produce a good crop for a family. Roselle cordial and jam (page 142)can be made

from the fruit pulp (calyx) and the sour leaves are also edible. Ripe seeds can also be fried and eaten as a snack.

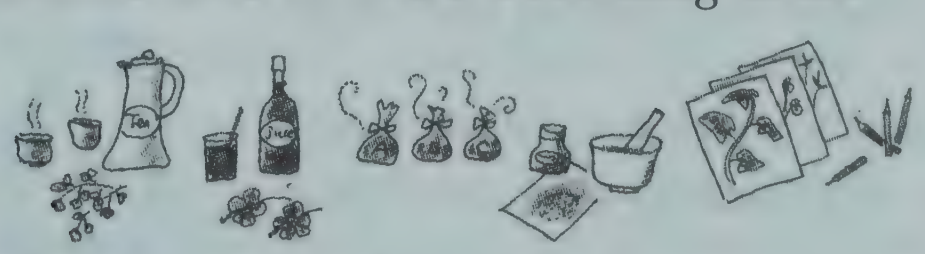
Basil/Tulsi (*Ocimum sanctum*): Considered to be sacred in India. Propagation is from seeds, it prefers a semi-shaded area. Leaves taken with honey are good for relief of the common cold.

Lemon grass (*Cymbopogon citratus*): Tea made from the leaves is deliciously cool and refreshing! Propagation is done by dividing clumps.



Dill (*Anethum graveolens*): Propagation is from seeds. Both the seeds and leaves are used in cooking and natural remedies. The yellow flowers are also very pretty.

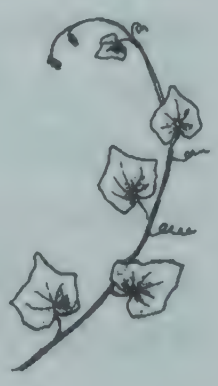
Mint (*Mentha arvensis*): Propagation is from stem cuttings. Fresh leaves are nice in salads, chutneys, and can also be used to make a soothing drink.



Growing local edible weeds can also be an interesting garden activity. You will find that most of them have medicinal values, too.

Indian Pennywort (*Centella asiatica*): Perennial herb. Propagation from stems, cuttings, runners; prefers moist soil and a semi-shady location. Leaves can be added to soups.

Amruli sak (*Oxalis corniculata*): Good as a soil cover. Perennial herb. Leaves are boiled and eaten with rice.



Ivy gourd (*Coccinia cordifolia*): A wild climbing weed, can be grown as a fence-cover plant. Leaves are little bitter, but rich in vitamin A. Also has medicinal uses.

Bush and small tree

Your choice of trees will depend on the size of your garden space. I recommend small to medium sized, multi-purpose plants that can provide a good variety of harvests and usages.
We have grown . . .

Small lime: We bought a few varieties of seedlings from a local nursery. Most of them take 2-3 years to fruit. Some of them do not give fruits but the leaves can be used for adding flavour to soups and other dishes. Butterflies and bees like lime flowers.

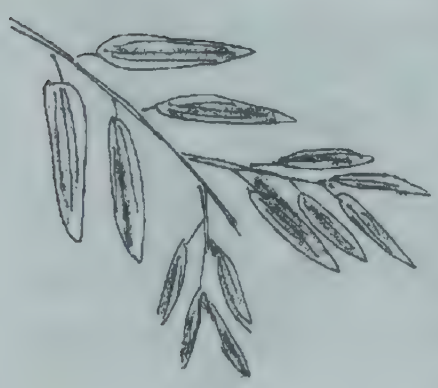
Curry leaf (*Murraya koenigii*): We brought a few seedlings from a local nursery. These propagate by themselves through the fallen seeds. Leaves can be used all year-round for South Indian dishes and for making chutney.

Guava (*Psidium guajava*): Propagation is from seeds/cuttings. We didn't plant this tree, it grew naturally from bird droppings. It typically grows to a height of 3-6 m. It is a fruit tree and the leaves have medicinal value.

Starfruit (*Averrhoa carambola*): The cross-section of this fruit reveals a star shape! That's why we used this fruit as a stamp for making our original wrapping paper (p. 100). This tree will generally grow to a height of about 6-8 m. We purchased a grafted seedling so that the tree would remain at 1-2m, but it gives plenty of fruit two or three times a year. The fruit is rather sour when eaten raw but you can make a delicious chutney with it.

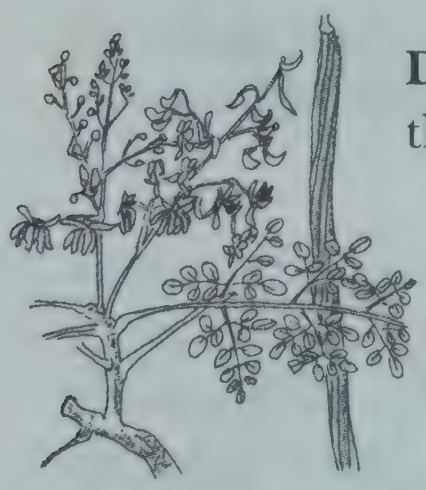
Bauhinia (*Bauhinia variegata*): A leguminous tree. There are pink and white varieties of Bahunia. It is called the 'Camel Foot Tree' because of the shape of its leaves. Also a good ornamental tree. Even if you cut the main branches, new branches will easily grow so you can plant this as a fencing tree.

Anatto (*Bixa orellana*): Propagation is from seeds. The seed is sometimes used as a natural dye, and gives off an orange-yellow colour (page 103); it is used for food colouring in butter, etc. Pretty, creamy white flowers make this an attractive ornamental plant.



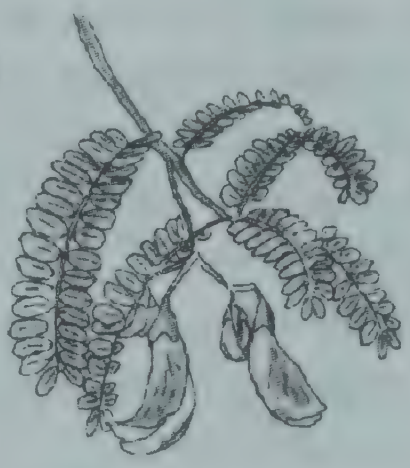
Bay leaf: The dry leaf of this plant is known as *Tej-pata* in Bengali, and is used in cooking. We purchased a seedling from a local nursery. The tree is now 5-6 m high, and has deep green colour leaves. Because its branches are sparse it is a good 'curtain' between our house and the next house.

Although our garden space is limited, we still have plans to try planting a few more types in the future . . .



Drumstick (*Moringa oleifera*): A leguminous tree that grows in fertile soil and has a high drought tolerance. I have noticed this is one of the most frequently planted tree in my locality. The fruit, leaf, and flower are edible and rich in vitamins and minerals. Propagation is from seeds.

Egyptian sesban (*Sesbania grandiflora*): This is a leguminous tree that can be grown in all types of soil, even heavy clay soils. Propagation is from seeds and seedlings. Its white flower is pretty and edible. You can make delicious *pakoras* with these flowers.



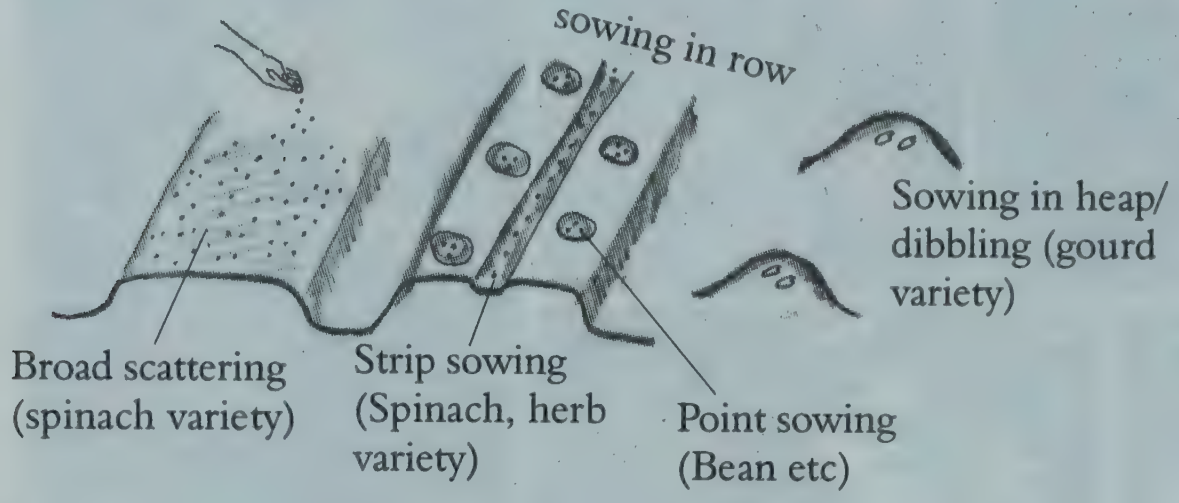
Also choose some flowering plants you enjoy. Here is a photo spread of the flowers in Young Bean Garden at various points of the year.

Sowing, Seedlings and Propagation

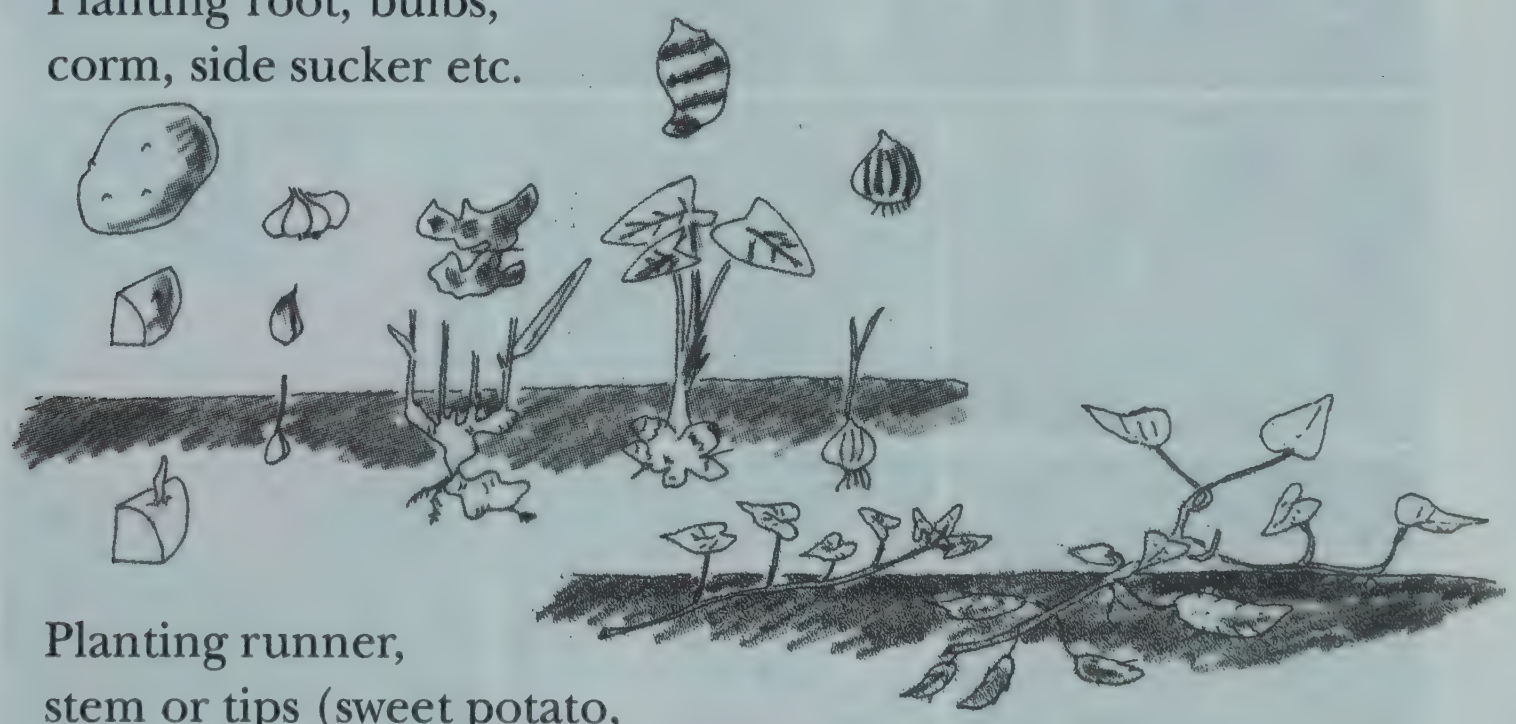
Well anyhow, let's get our seeds into the soil . . .

Put a seed into the soil, usually at a depth of 3 times the thickness of the seeds

➡ Sowing position (Direct Sowing)

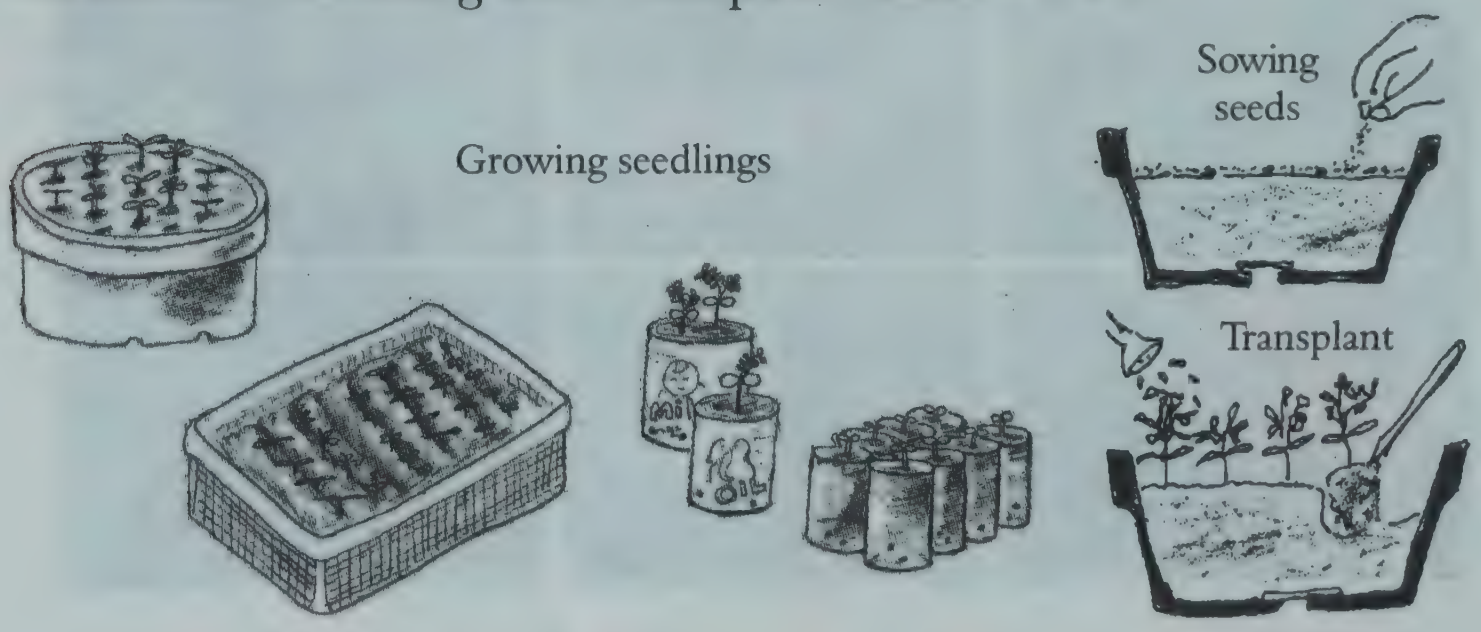

sowing in row
Sowing in heap/ dibbling (gourd variety)
Broad scattering (spinach variety)
Strip sowing (Spinach, herb variety)
Point sowing (Bean etc)

➡ Planting root, bulbs, corm, side sucker etc.

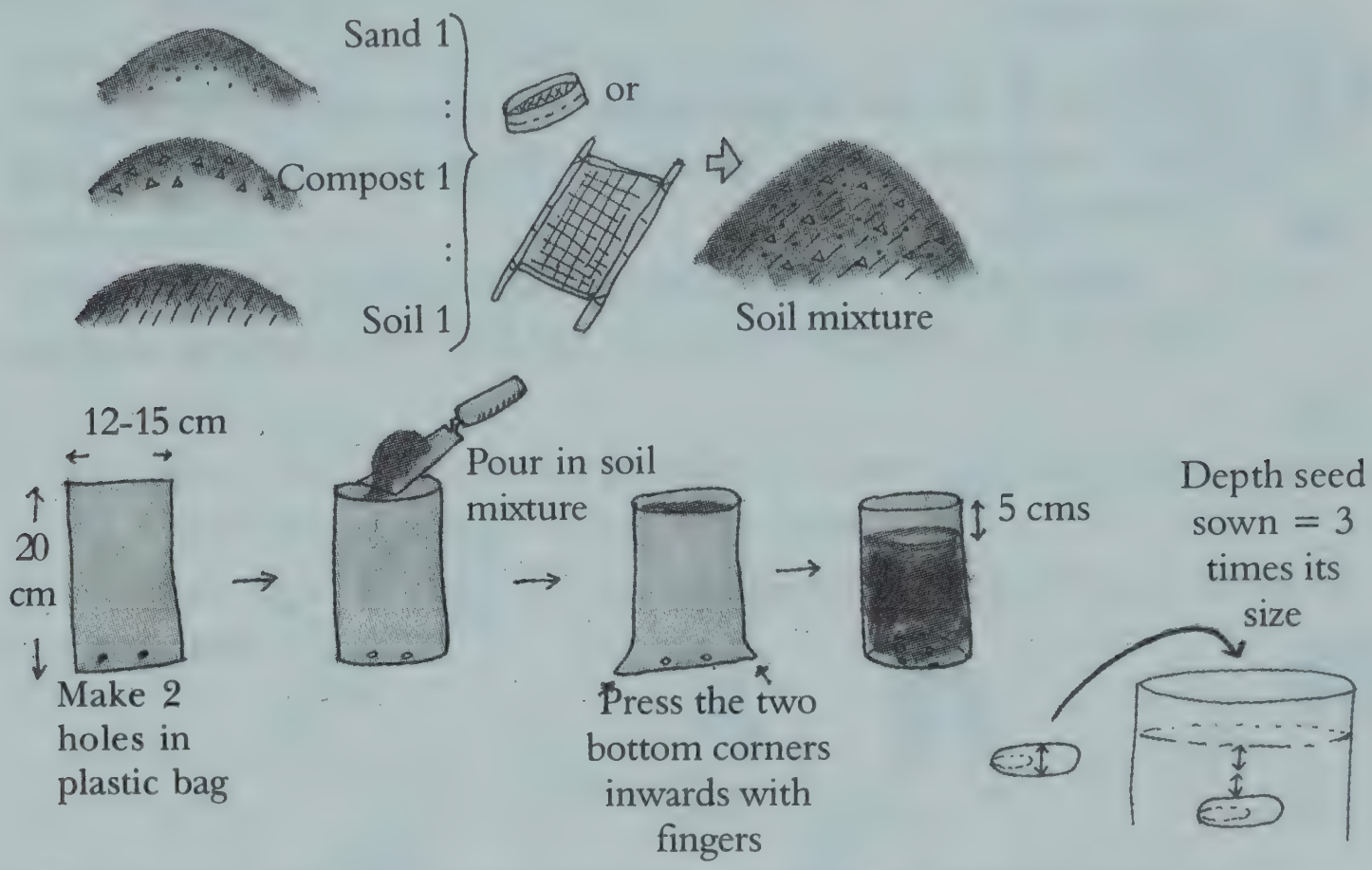


➡ Planting runner, stem or tips (sweet potato, water convolvolous, ceylon spinach etc)

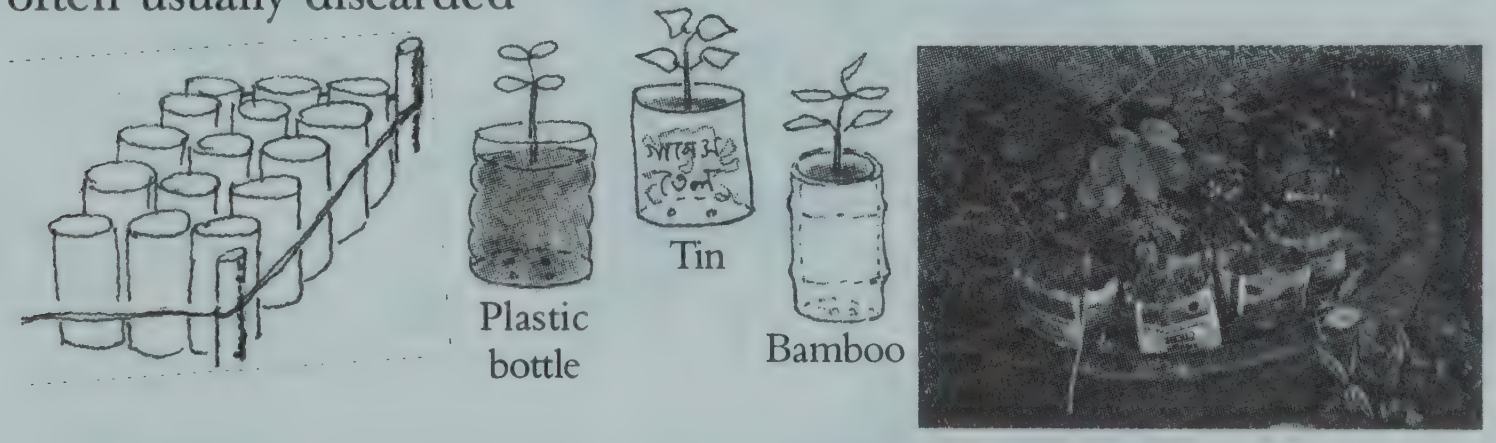
For some vegetables such as tomato, chillies, and eggplant, you need to make seedlings then transplant them. Soil mixture for seedling soil : compost : sand = 1:1:1.



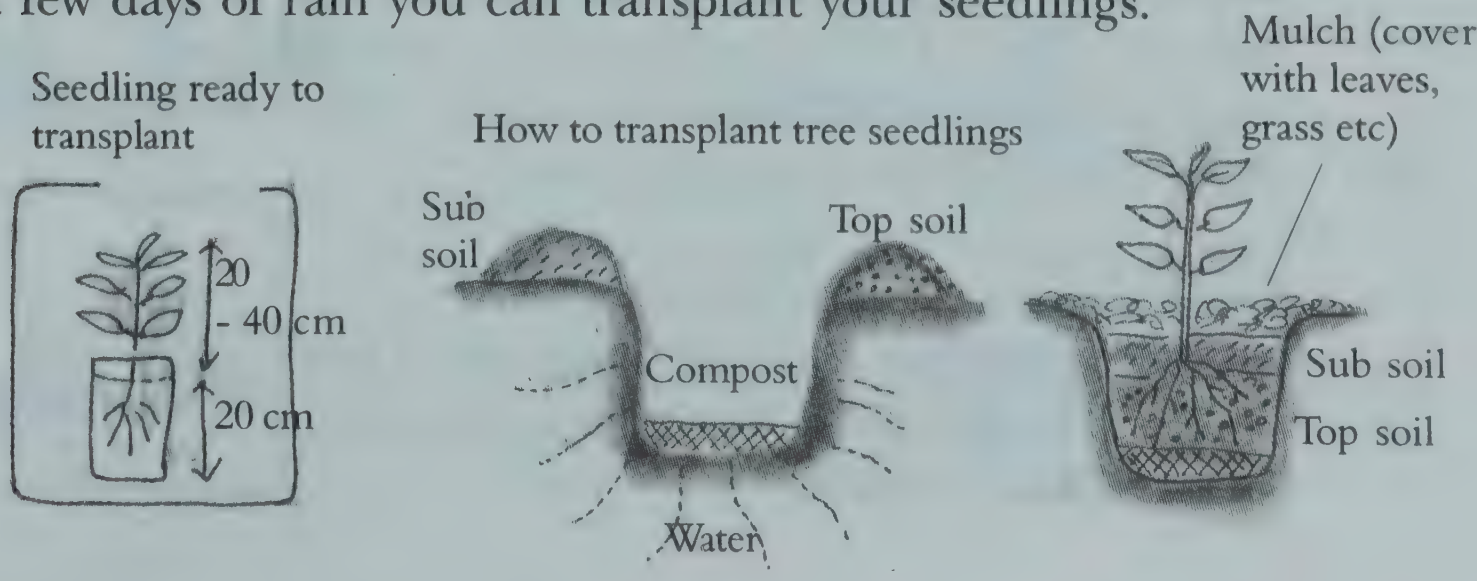
Tree Seedling Preparation



Seedlings can also be prepared in various packaging that is often usually discarded



Rainy season is the best time for tree planting. Are your seedlings ready? Prepare the site before the rain starts. Dig holes 30-40 cm and 30 cm wide and add some compost. After a few days of rain you can transplant your seedlings.

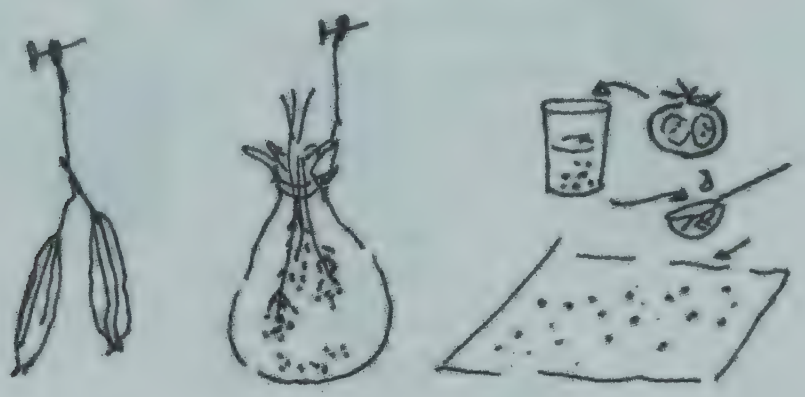


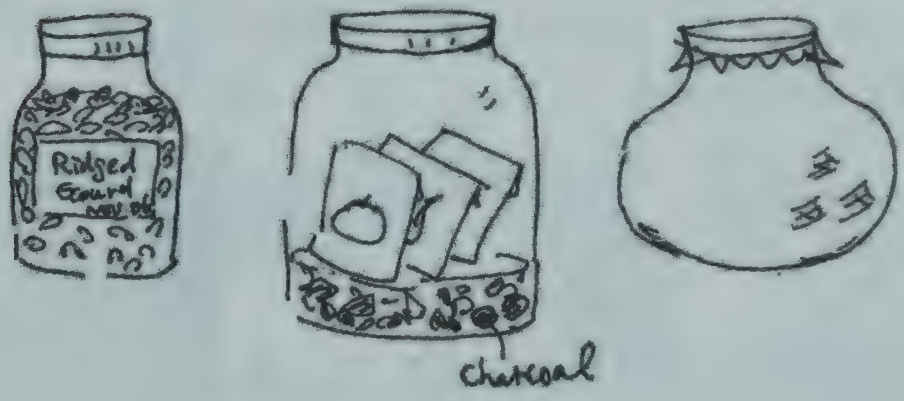
Seed Storage

[vegetable]

Don't pick all the fruits at harvest time, leave a few good fruits on the plant to allow them to ripen for seed harvesting.

After extracting the seeds, dry them well and keep them in an airtight container till the next sowing season.





[tree]

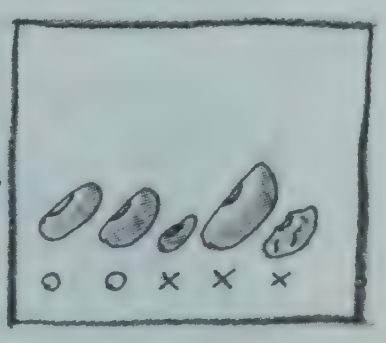
It is important to dry the collected seedpods completely.

Drying

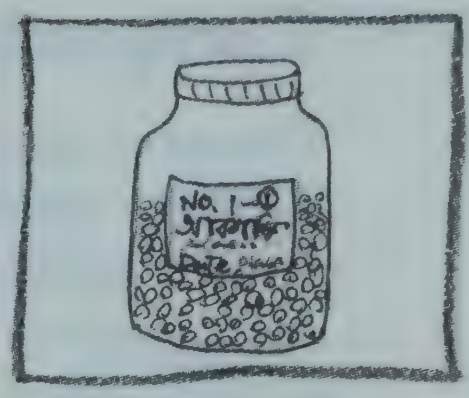
Spread the seedpods on a mat/old newspaper. Dry them in a semi-shaded place where there is good air circulation for at least 5-7 days. (Do not expose them to too much sunlight or the seeds will crack) Take them inside in the evenings.

Selecting

Remove seeds from their seedpods. Select only the good seeds (those that have proper size, shape, colour, surface)



Storage and Labelling

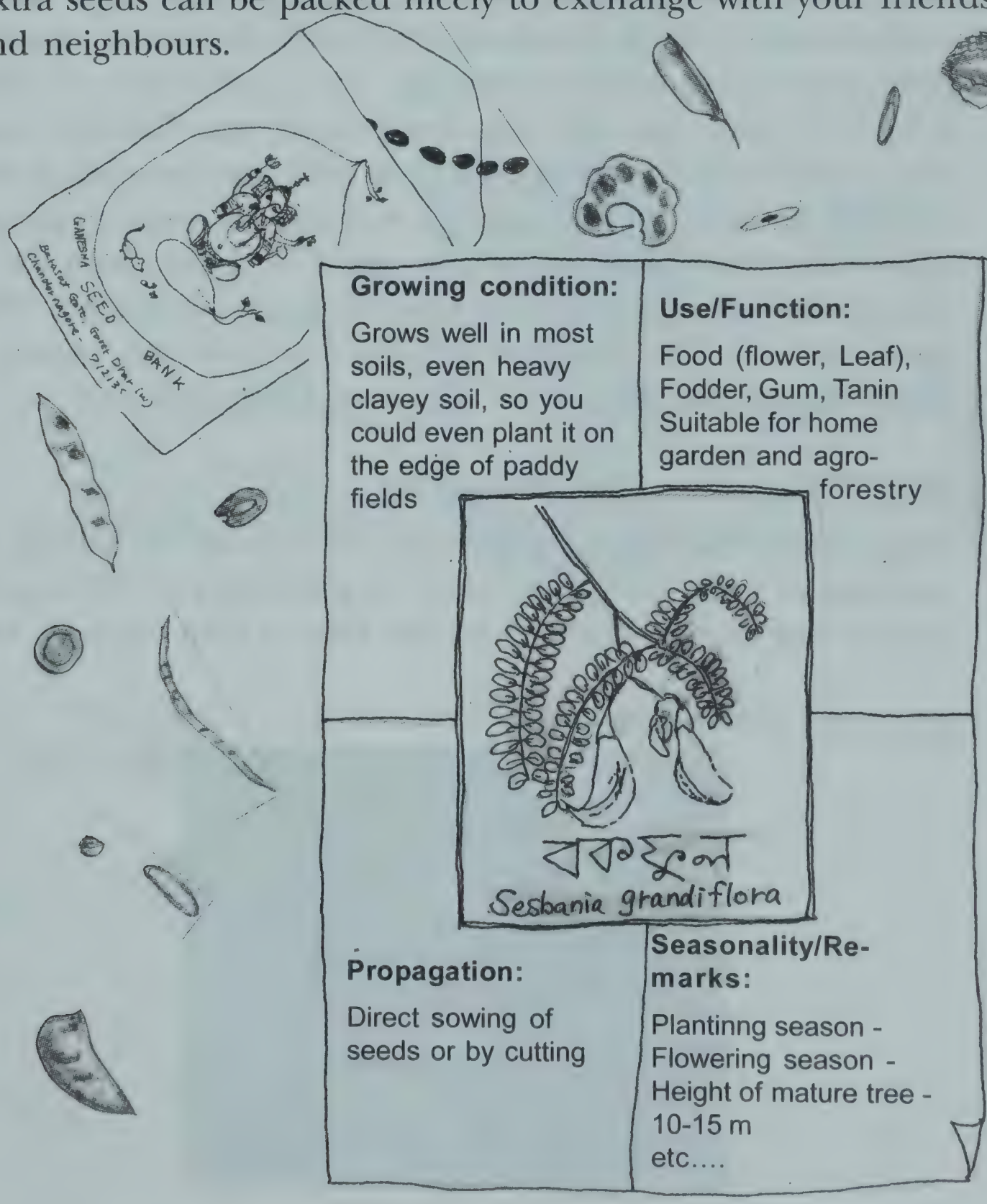


Keep the seeds in either a cloth bag, a glass/ plastic bottle, or an earthen jar. To avoid moisture, use roasted charcoal or roasted rice covered in a cloth bag. To avoid insect attacks, add a few drops of neem oil or mustard oil.

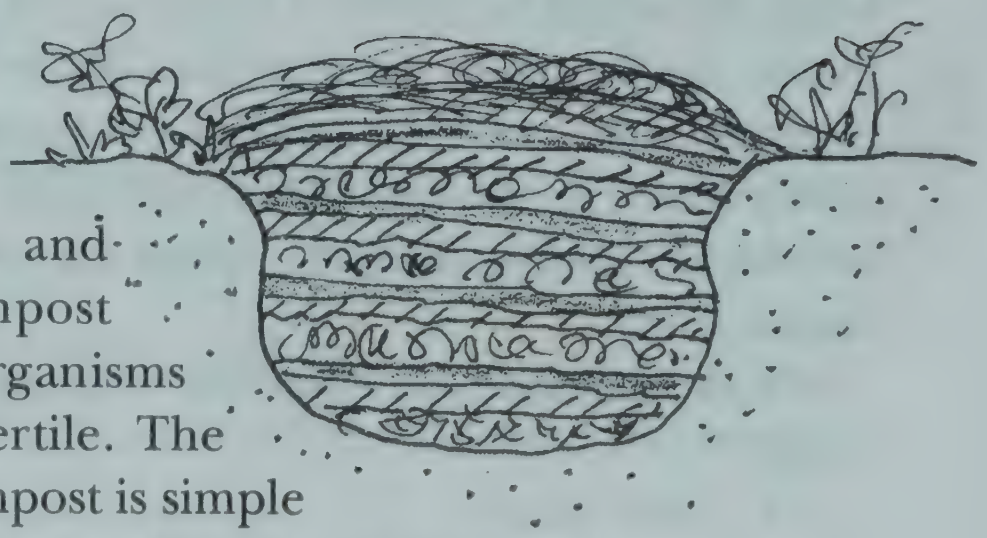
You may want to note the following information on your seeds:

- Seed name
- Date (Date seeds were collected and bottling date)
- Place from where it was collected

Extra seeds can be packed nicely to exchange with your friends and neighbours.


GANESHA SEED
BANK
Growing condition:
Grows well in most soils, even heavy clayey soil, so you could even plant it on the edge of paddy fields
Use/Function:
Food (flower, Leaf), Fodder, Gum, Tanin
Suitable for home garden and agro-forestry
বকফুল
Sesbania grandiflora
Propagation:
Direct sowing of seeds or by cutting
Seasonality/Re-marks:
Plantinng season -
Flowering season -
Height of mature tree - 10-15 m
etc....

Composting



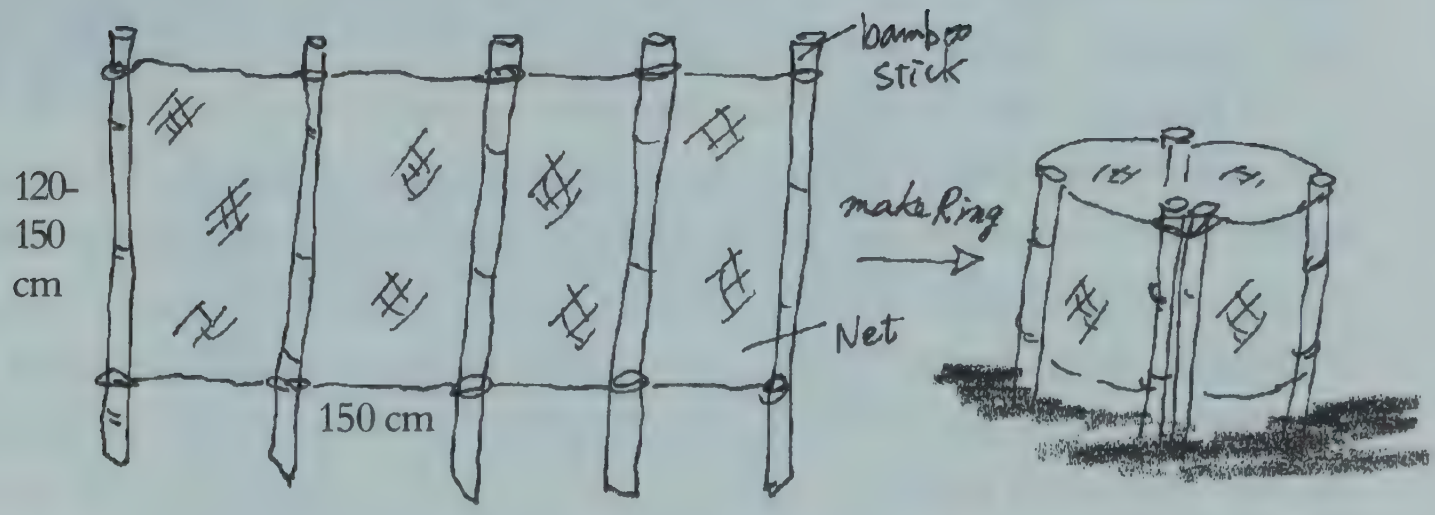
Compost is natural fertilizer made from rotten organic waste such as garden waste and kitchen scraps. Compost activates the micro-organisms that help make soil fertile. The process of making compost is simple so that children can also easily help to prepare it.

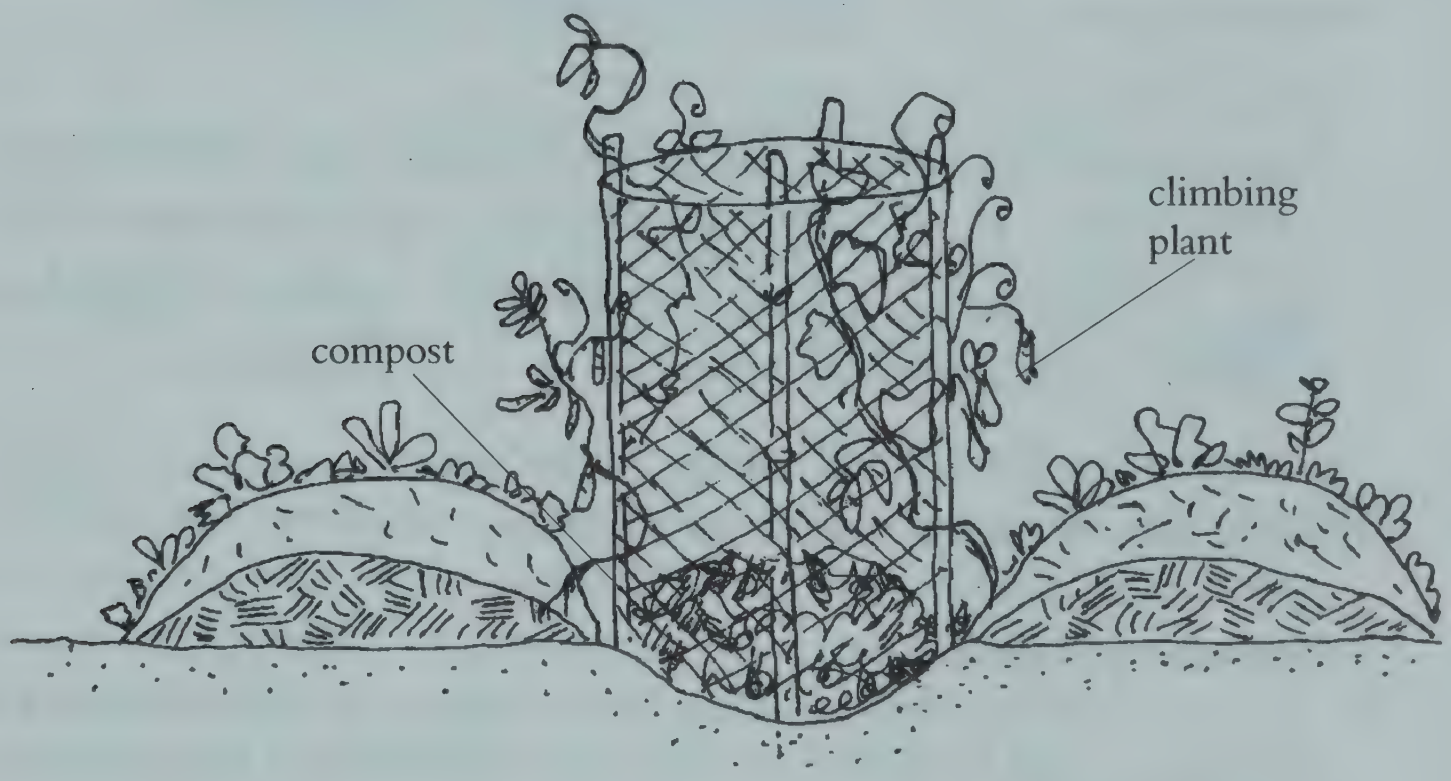
To start your compost, make a layer of dry, organic matter (dry tree leaves, weeds, straw, etc.), add another layer of raw organic matter (fresh leaves, aquatic weeds, fruits and vegetable peels, bird/small animal droppings, etc.), and a layer of soil in a 3 : 2 : 1 ratio. You can also simply cover your kitchen wastes with a layer of dry leaves/green grass each time you add to your compost pit/pile. In this case, you will need to sprinkle in some water each time to keep the pile moist. It takes about 2.5 - 3 months for your compost to be ready to use in the garden. When ready for use the compost should not have any rotten or unpleasant smell and will be of a dark blackish colour.

Simple design for compost making

Using terracotta ring : These rings are actually for making water tanks or wells but are excellent for gardening as well: a small-garden bed border or a ring for the base of your compost area.

Using net: This method also increases the growing space for climbing vegetables.





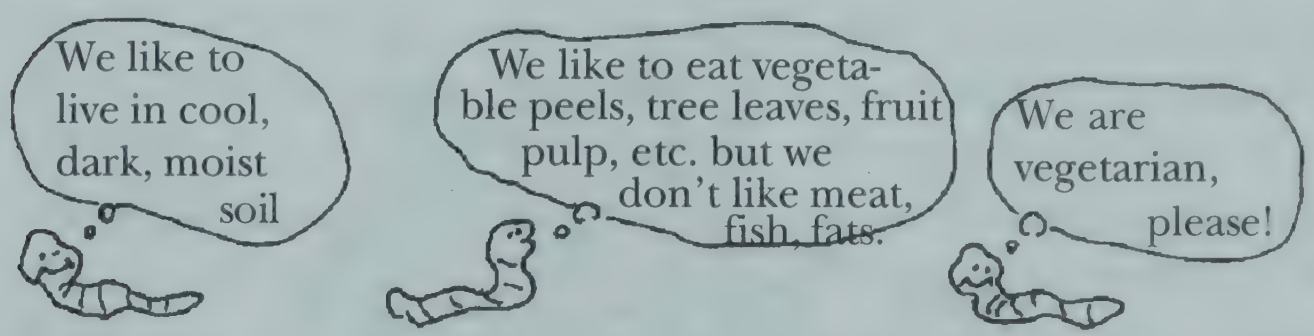
After your compost is ready, you can shift the ring or net to make a new compost in a new location.

Vermi-compost

With the help of earthworms, kitchen wastes like vegetable and fruit peels, can be turned into a rich manure called vermi-compost.

Though Green Sprout members were never successful with their vermi-composting attempt (see p. 18), I still think this is one of the most interesting and useful home-based waste management systems. You can do a 'how to make vermi-compost' search and find lots of information and examples on the web as well as in books. I will share one method instructed by my husband here.

Red worms (*Lumbricus rubellus*) or red wigglers (*Eisenia foetida*) are the types of earthworms necessary for making vermicompost.

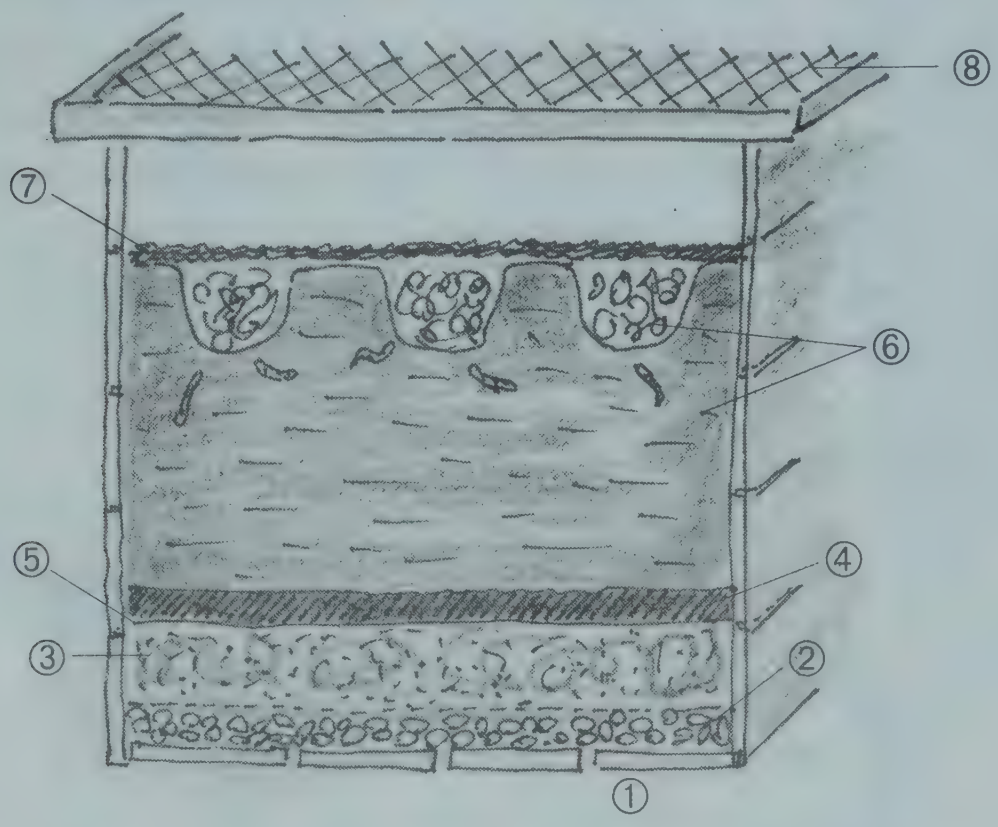

We like to live in cool, dark, moist soil
We like to eat vegetable peels, tree leaves, fruit pulp, etc. but we don't like meat, fish, fats.
We are vegetarian, please!

Worm bin for a small family of 3-4 persons producing about 500-600 gm of non-greasy food waste everyday

Follow steps 1 to 8.

1 Take an old wooden packing crate (about 70-75 cm wide, 100 cm long, and 50-60 cm deep), and drill about 12-15 drainage holes at the bottom.
2 Make a 4-5 cm layer of small pebbles and/or broken bricks
3 Build up a 15-20 cm deep layer of crumbled newspaper, coir, or ripped cardboard (these should first be soaked for 2-3 hours in water and squeezed out well before being placed into the box).
4 Cover this layer of crumbled paper with a 3-5 cm layer of silt/ soil.
5 Introduce the earthworms (500 gm, 1800-2000 mature worms) in between the wet layers.
6 Now pile on a layer of straw and dry leaves 30-35 cm deep (these should be first cut up into small pieces). Small quantities of food waste will be buried into this layer every day in different spots.

7 Cover the top with a double layer of soaked jute bags/cloth in order to keep the surface cool and moist.

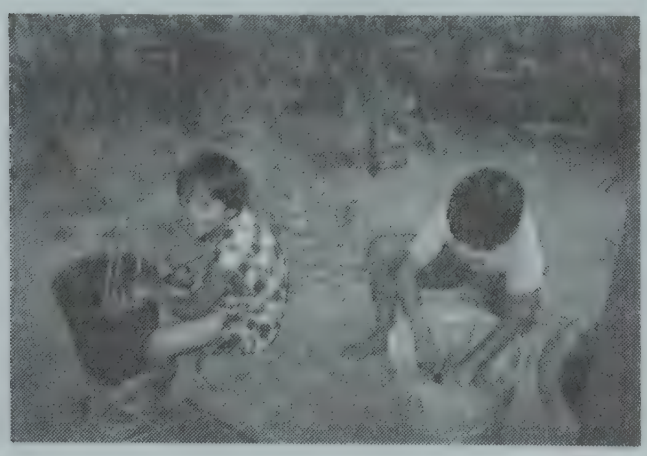


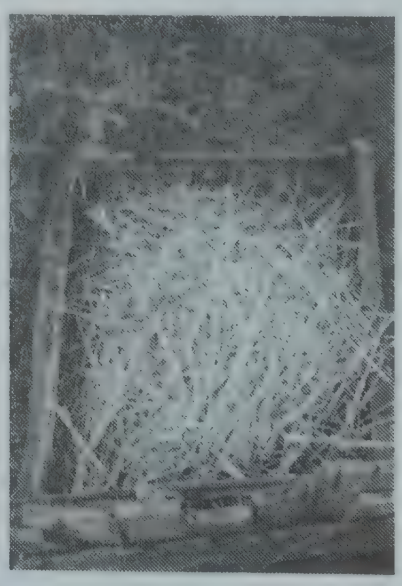
8 Lastly, place a net cover over the top of your crate to protect the earthworms from rats, cats, birds, etc.

Maintenance : Sprinkle some water over the top to keep the jute wet; bury your kitchen waste in the straw layer in a different spot each day.

Harvesting the compost : After six to eight weeks, the top layer of your vermi-compost bin should be decomposed and look like brown tea dust. When this happens, stop watering for 2-3 days and don't add any new waste.
Remove the top layer (the top 12-15 cm), and replace it with a fresh layer of straw. Go back to the old routine of adding waste and keeping the jute bags wet. After 3-4 cycles the entire contents have to be replaced and a new box needs to be started.

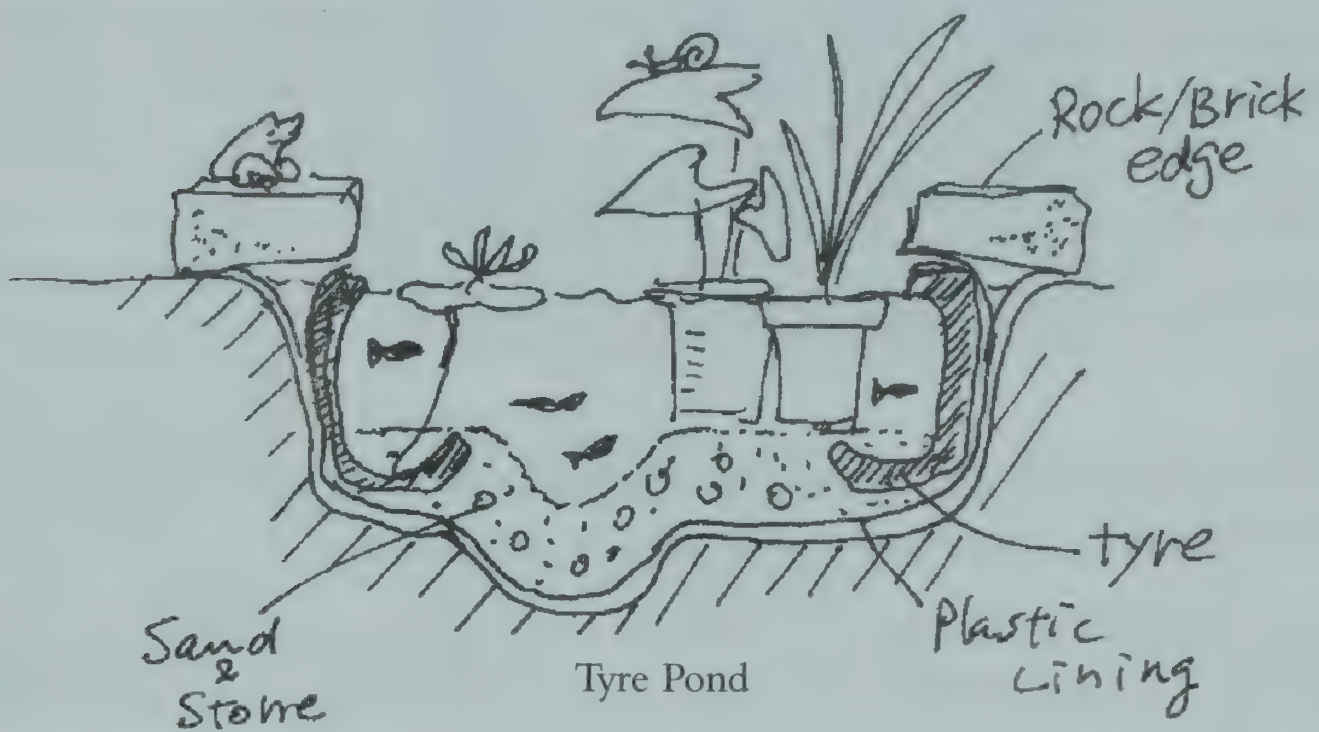
All the best!



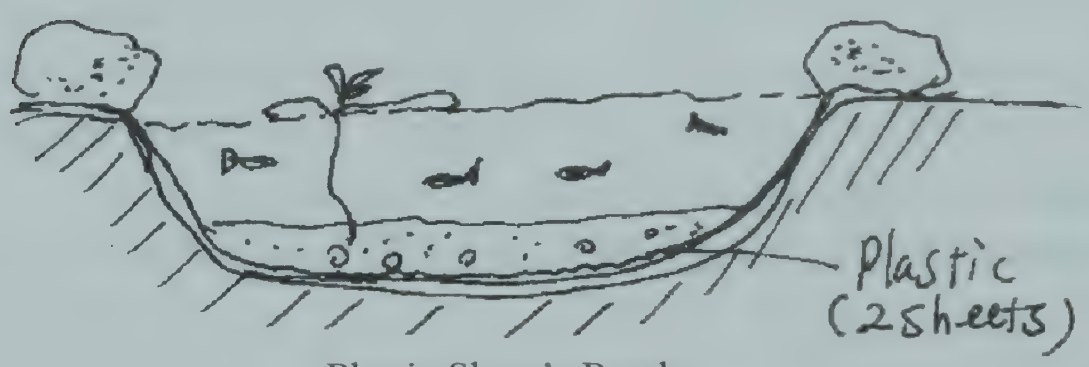


Making Small Scale Ponds

If you set up an aquatic body in your garden, the biodiversity of your garden will be greatly increased as more birds and butterflies will be attracted. Because our house is situated beside a large community pond, we found that some birds that prey on fish were a deterrent to keeping small fish in our outdoor ponds. We later had to place net covers on our small ponds to protect the fish inside from those birds.



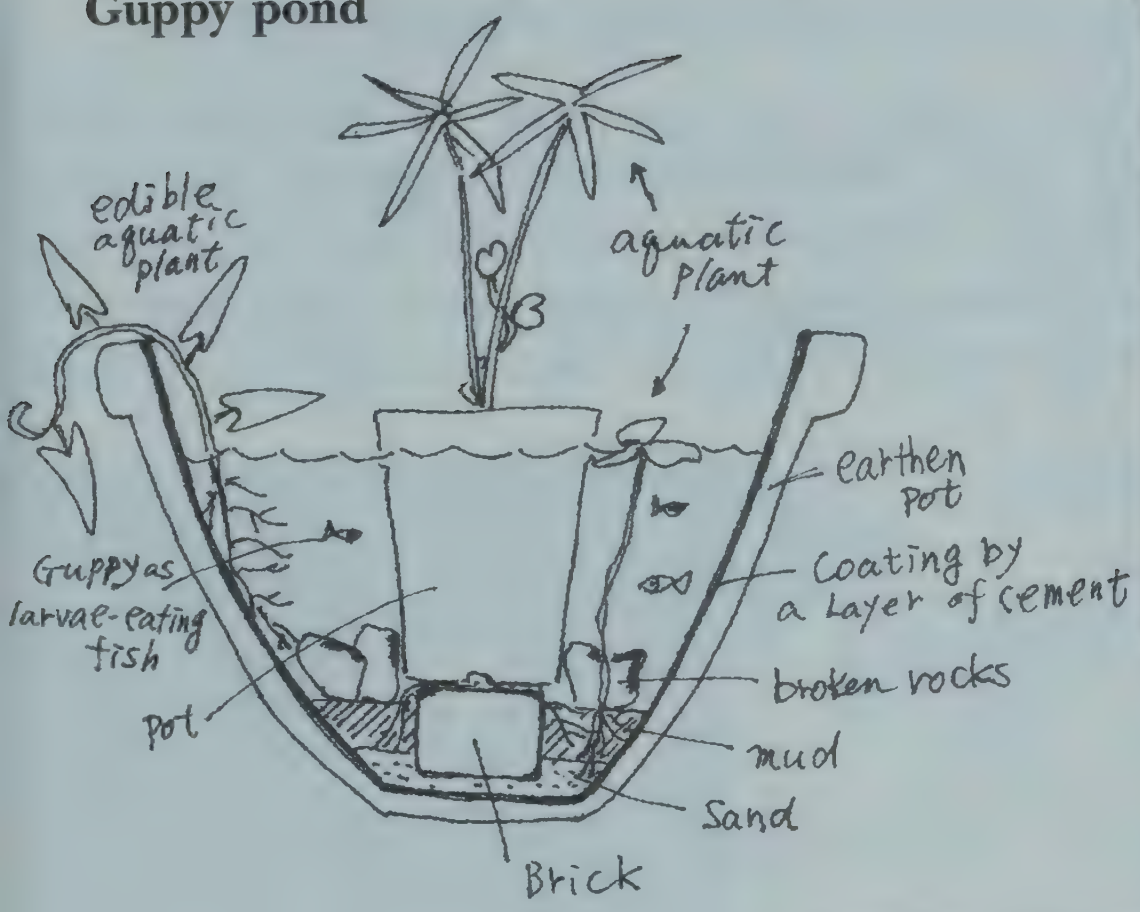
Tyre Pond

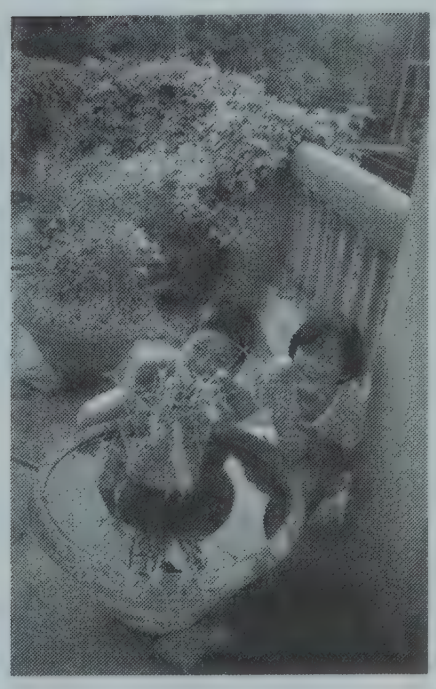


Plastic Sheet's Pond

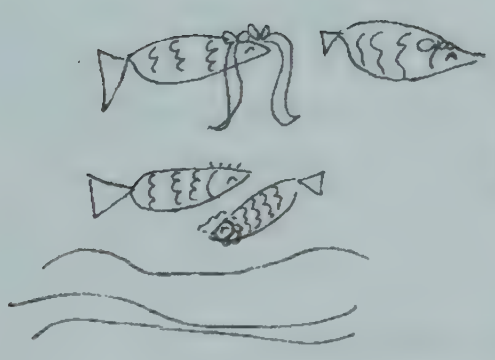
Earthen Pot's Pond

Guppy pond



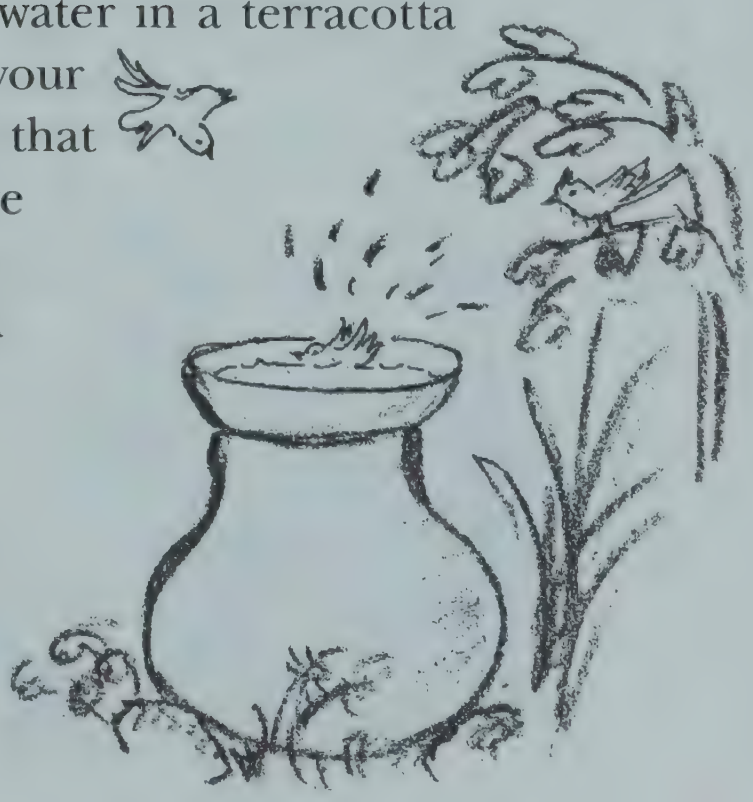


We are Fish Family



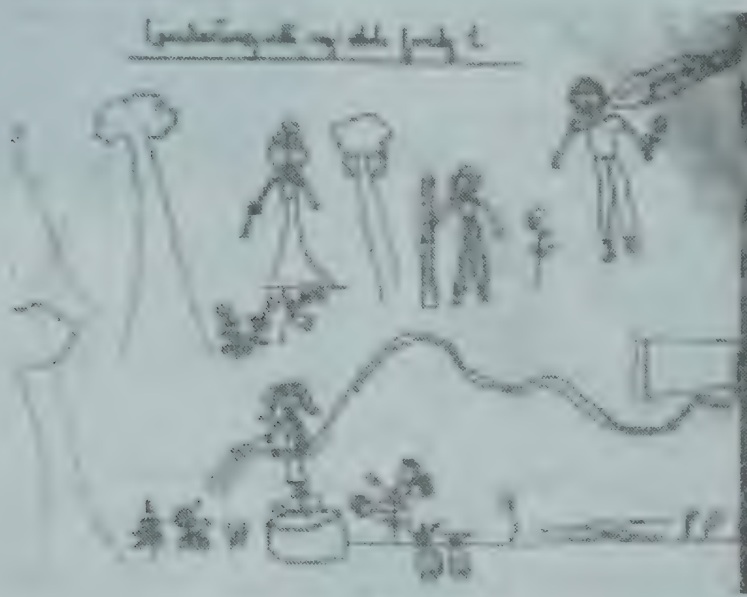
Hi! We are Guppies (*Poecilia reticulate*), known as larvae – eating fish. We can tolerate a wide range of water even grey water, but cannot survive at low temperature below 5°C. We live 3-5 years and mature in 90 days, when males are 1.8cm long and females 2.5 long. Male guppies have more colourful tails than female guppies. The female produces 50-200 offspring a month, in broods of 5-7.

Bird baths: Even if you only put water in a terracotta pot (without any fish) placed in your garden you will get various birds that love to stop by for bathing. I have observed many birds enjoy their bathing rituals, especially around 2 pm in the afternoons.



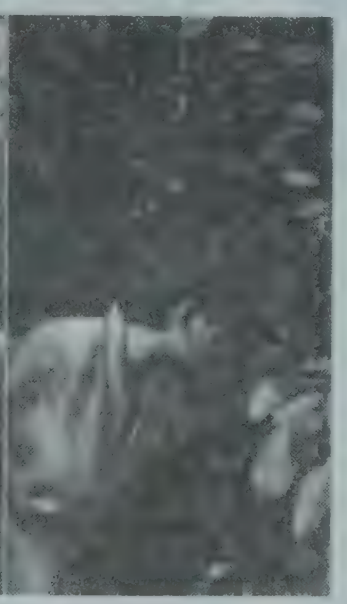
Gardening as a Learning Opportunity

Gardening creates many opportunities for discovery and learning, for all ages. These include writing skills, art, plant science, mathematics, nutrition, a cooperative attitude – the list goes on and on. 'Garden-based learning' can be explored with children as a home-based activity, or together with the school curriculum.



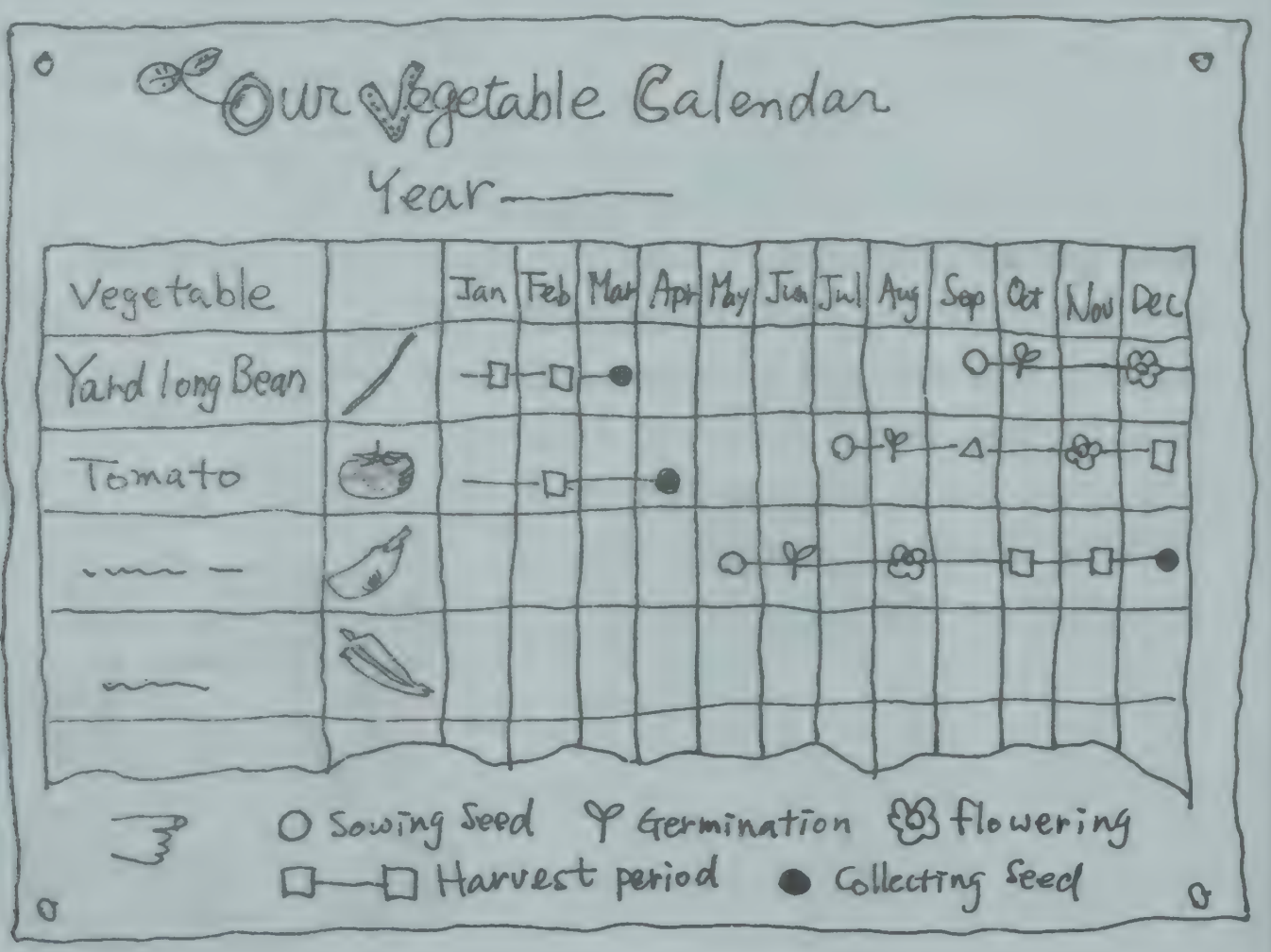
Art

Measuring & maths



Observation & science

For example, keeping record of your own vegetable calendar and profile, provide you practical information as well as a learning opportunity for your children.



Vegetable profile

Seed from _____

_____

Name of Vegetable

_____

Work in Garden

_____

_____

_____

General Information

Local name _____

Scientific name _____

Sowing Season _____

Germination Period _____

Harvesting Season _____

Growing Condition

sunlight _____

water _____

soil _____

Nuttition fact _____

Remarks _____

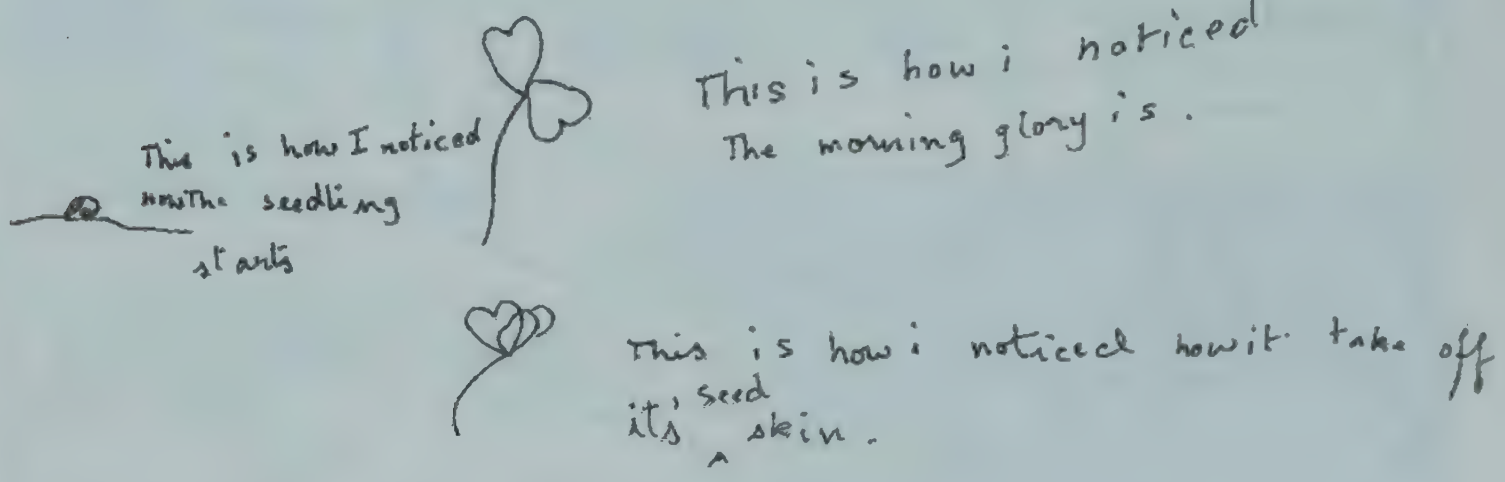
Record in Our Garden

Date	work done
_____	_____
	_____
_____	
	_____
	_____
_____	
	_____
	_____
_____	
	_____

Recorder name _____ Date _____

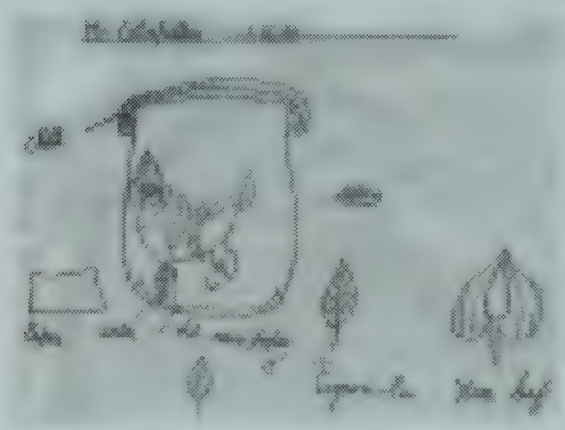
Butterfly or Moth? Let's keep observing and keeping a record

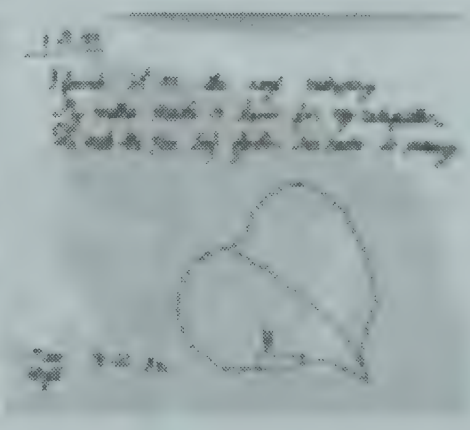
When my daughter was 6 years old, she wrote this down on her observation record about the germination of morning glories.



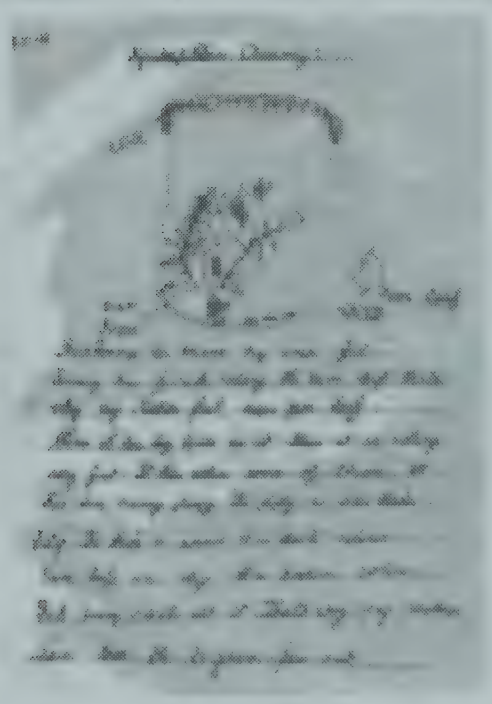
I gave each of my children a Garden Record Booklet and at the same time, I kept one notebook for myself. As I mentioned in the section on Droppy and Yammy (p. 9), we kept observation records like this. Manosi was in Class 1 at that time, so I needed to assist her a bit in keeping her record.

From Manosi's notebook: (Her writing has been typed in its original form), She coloured her drawings nicely.

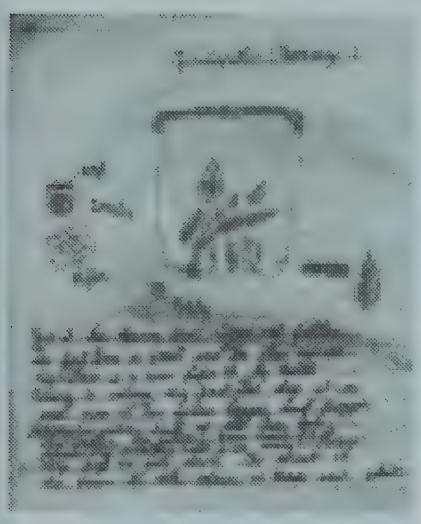




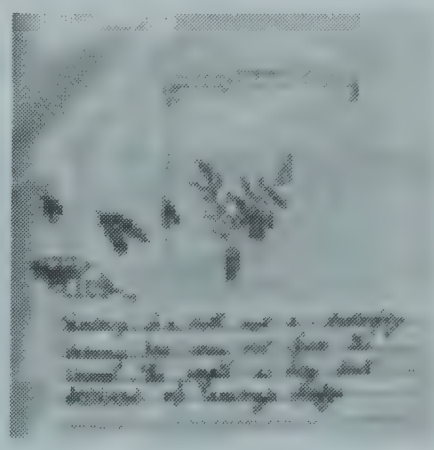
1.11.99
I found it on the roof yesterday. My mother made a home for my caterpillar. She eats the yam leaf faster. Her name is Yammy.



8.11.99
Now 'Yammy' has become big and fat. Yammy has finished eating the yam leaf, that's why my mother put new yam leaf. Now it has big lines on it. Now it is eating very fast. It has eaten some of them. It has done many poty. The poty is like birds' poty. The shape is round. It is in black colour. Some leaves are dry. It is brown in colour. But yammy didn't eat it. Thats why my mother took pigeon pea out.

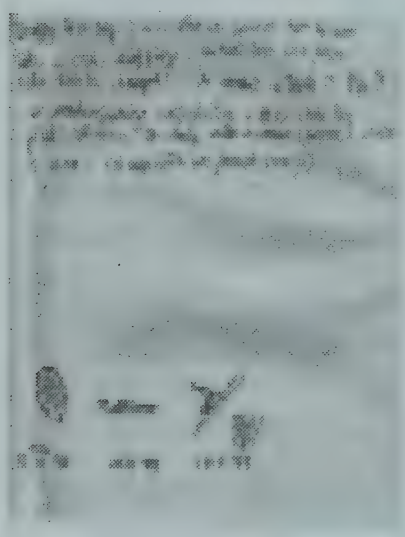


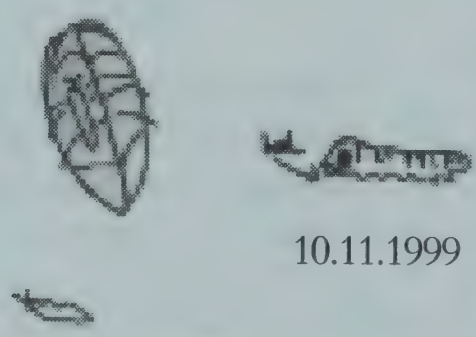
9.11.99
Now it has become more biger and fatter. There is new papers in the bottle. Yammy is eating very fast. That day it was small, now it has become bigger and bigger. Yammy has eaten half of the yam leaf. My mother has given some leaves. If it finishes, my mother will give more. Many dry leaves has fall down, the stick is also brown. The clothes colour is brown and white.



5.12.99
Yammy is a moth not a butterfly. Yammy has come out from the cocoon. The smell is very bad because of Yammy's droppys.

My son Shantonu (Class 3), on the other hand, wrote a much more minimalistic record like this:



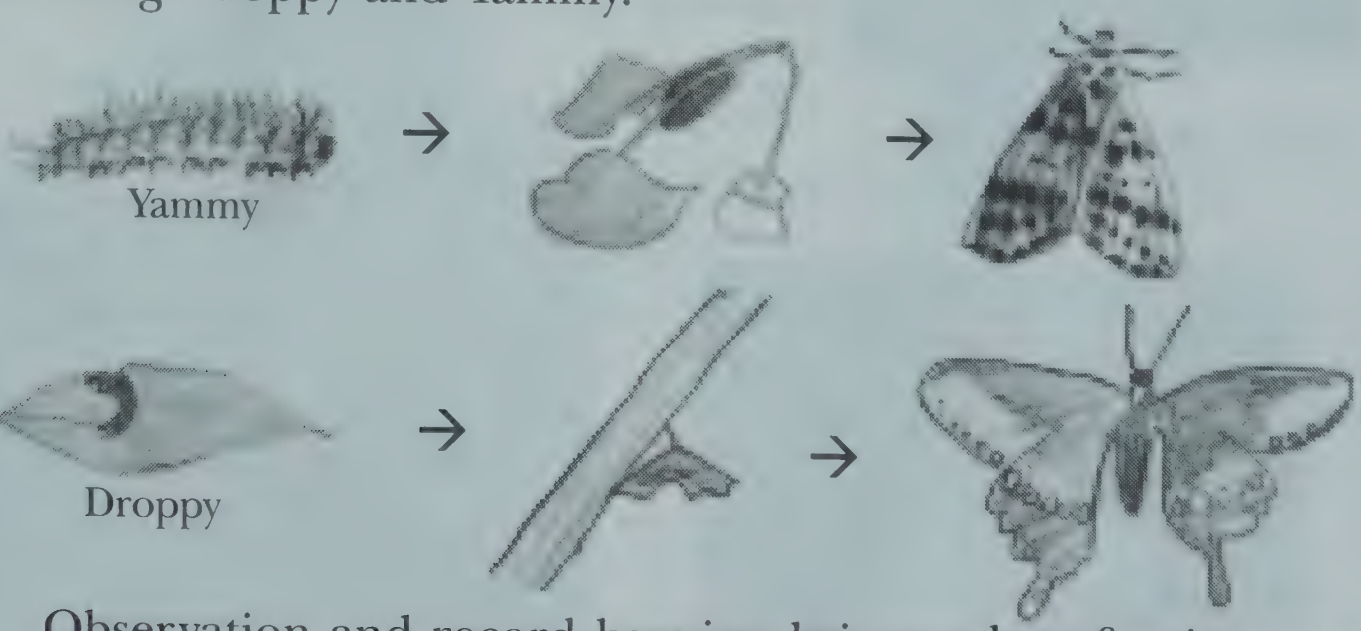


10.11.1999

05.11.1999

17.11.1999

My own record is shown here, too. It was really an exciting moment for me when I actually understood the difference between the metamorphosis of a butterfly and a moth by observing Droppy and Yammy.



Observation and record keeping brings a lot of enjoyment and discovery for both the children and parents!

Keeping a record on our Friend-Trees

This is one example of a Friend-Tree record kept over a long period (p. 10) If you take pictures from time to time, you will have nice memories of both your tree and your children – they both grow pretty fast, don't they?!

Champa (*Michelia champaca*) known as flower tree

Tree height
1m 34 cm
(05.11.1999)

Tree height 1m 83 cm (13.06.2000)

Tree height 5m 20 cm
(15.07.2002)

"This is my friend-tree 'Champa' in my garden. We purchased the seedling from tree nursery and transplanted. I started to keep record when I was in class 3. Sometimes I forgot visiting my tree. After 8 months I completely forgot to keep record . . . partly because I didn't like 'measuring tree' because of mosquito bite!

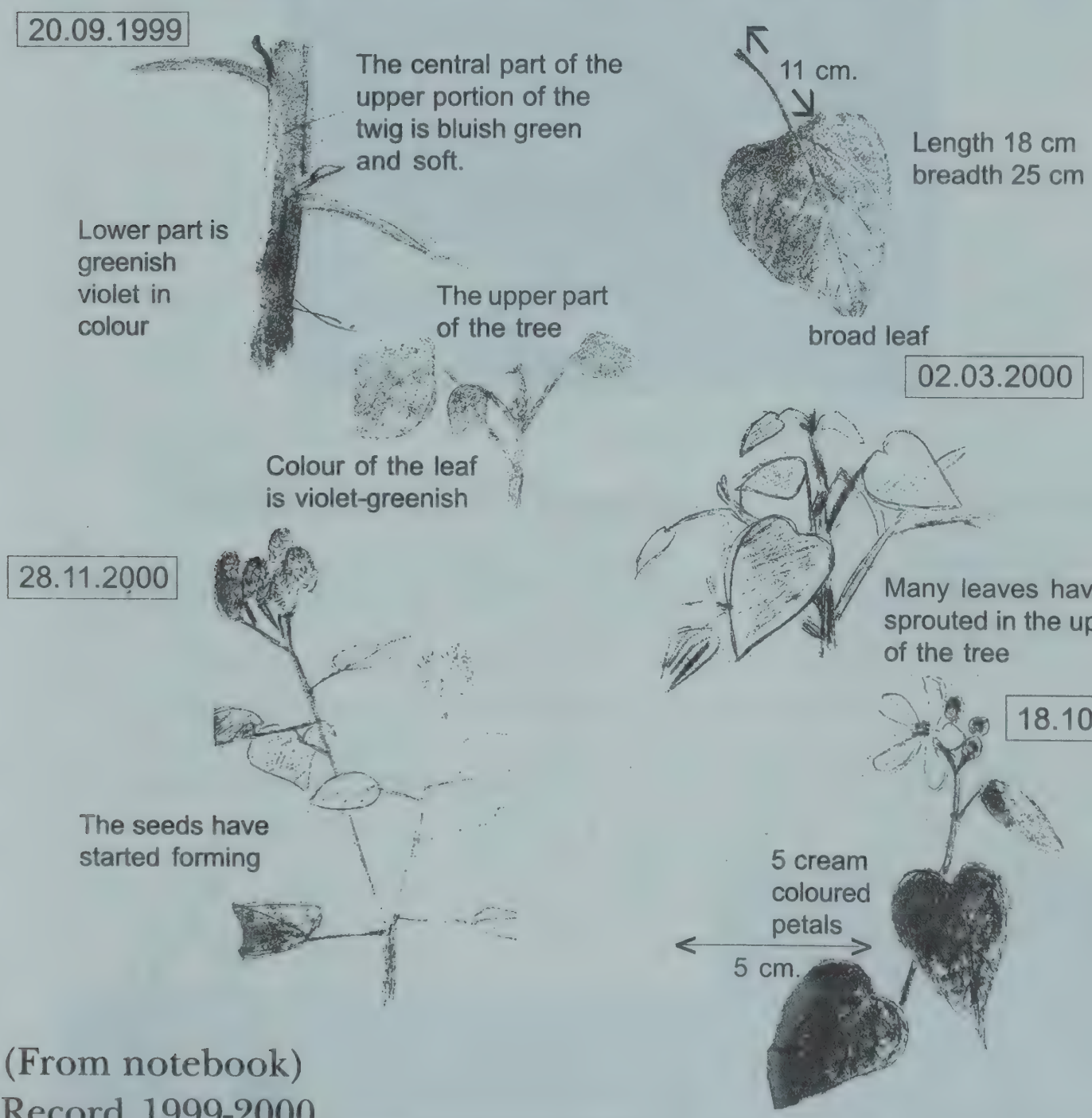
Now I am in class 6 and my friend-tree has already reached upstairs of our home. I can see his pretty flowers from the window & enjoy the nice smell.

I really surprise my friend tree is gowing much faster than me!

(Shantonu July 2002)

"Oh! How tall!"
Friend Tree in March 2007

This is my Friend-tree **Anatto** (*Bixa orellana*). I kept my record for about one year. Sometimes I missed to write down, but this helped me to satisfy my curiosity to know about my tree. I was eagerly waiting to know when and what kind of flowers would become out ... You may think you do not have such time to keep record, or you may think keeping record is just too much. Try just one year, then you can judge. Mean time your children may find some interest in your 'activity', then they may join.


20.09.1999
The central part of the upper portion of the twig is bluish green and soft.
Lower part is greenish violet in colour
The upper part of the tree
Colour of the leaf is violet-greenish
11 cm.
Length 18 cm
breadth 25 cm
broad leaf
02.03.2000
Many leaves have sprouted in the upper part of the tree
28.11.2000
The seeds have started forming
18.10.2000
5 cream coloured petals
5 cm.

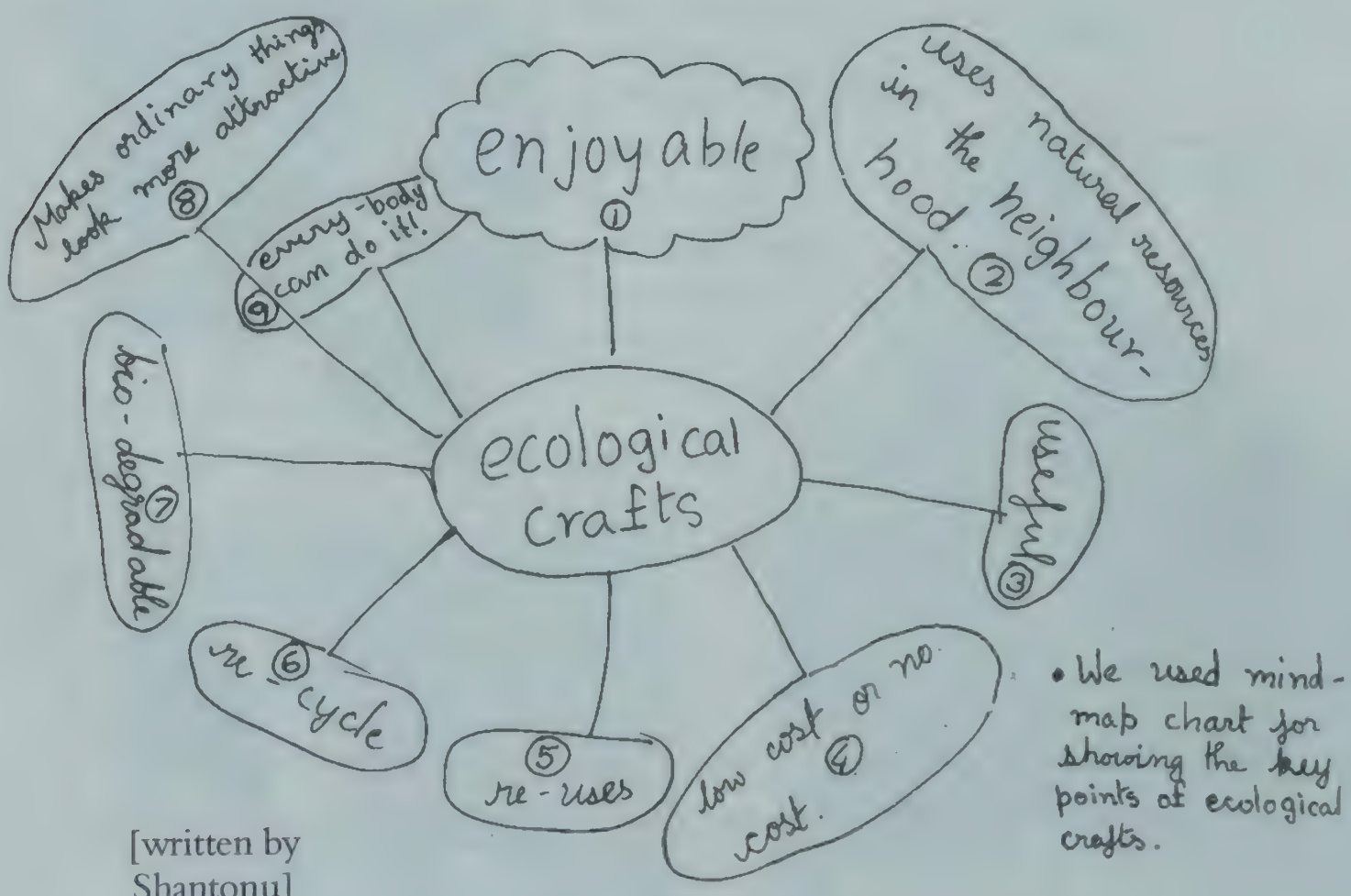
(From notebook)
Record 1999-2000

Month	Sep	Oct	Nov	Jan	Jun	Sep	Oct	Nov
Date	20	31	28	–	13	18	20	27
Temp	27°c	26			34	30	23	
Height	91 cm	109 cm	112 cm	114 cm	177 cm			250 cm
Flower	No	No	No	No	No	started	12th	finished
Fruit/Seed							started	>>

Eco-Crafting

Thinking about Ecological Craft Ideas

Green Sprout would like to share the idea of eco-crafting with you, as we see it:


ecological crafts
enjoyable ①
uses natural resources in the neighbour-hood. ②
useful ③
low cost or no cost. ④
re-uses ⑤
re-cycle ⑥
bio-degradable ⑦
Makes ordinary things look more attractive ⑧
every-body can do it! ⑨
• We used mind-map chart for showing the key points of ecological crafts.

[written by Shantonu]

① Ecological crafts are very **enjoyable**. We can guarantee that.

② The most important aspect of eco-crafting is to use natural **resources** that are readily available in the neighbourhood such as leaves, flowers, seeds, fruits and soil.

③ What you end up making is not only for decoration, but should become something **useful.**

④ Eco-crafting is basically a **low-cost** or **no-cost** activity since you need not buy many new materials (except for colours and glue).

⑤ Try to **re-use** as many things as possible: waste paper, earthen tea cups, orange peels, candle wax, etc.

⑥ Focus on trying to use **recycled** papers (including newspapers, wrapping paper, old envelopes, office paper, etc.)

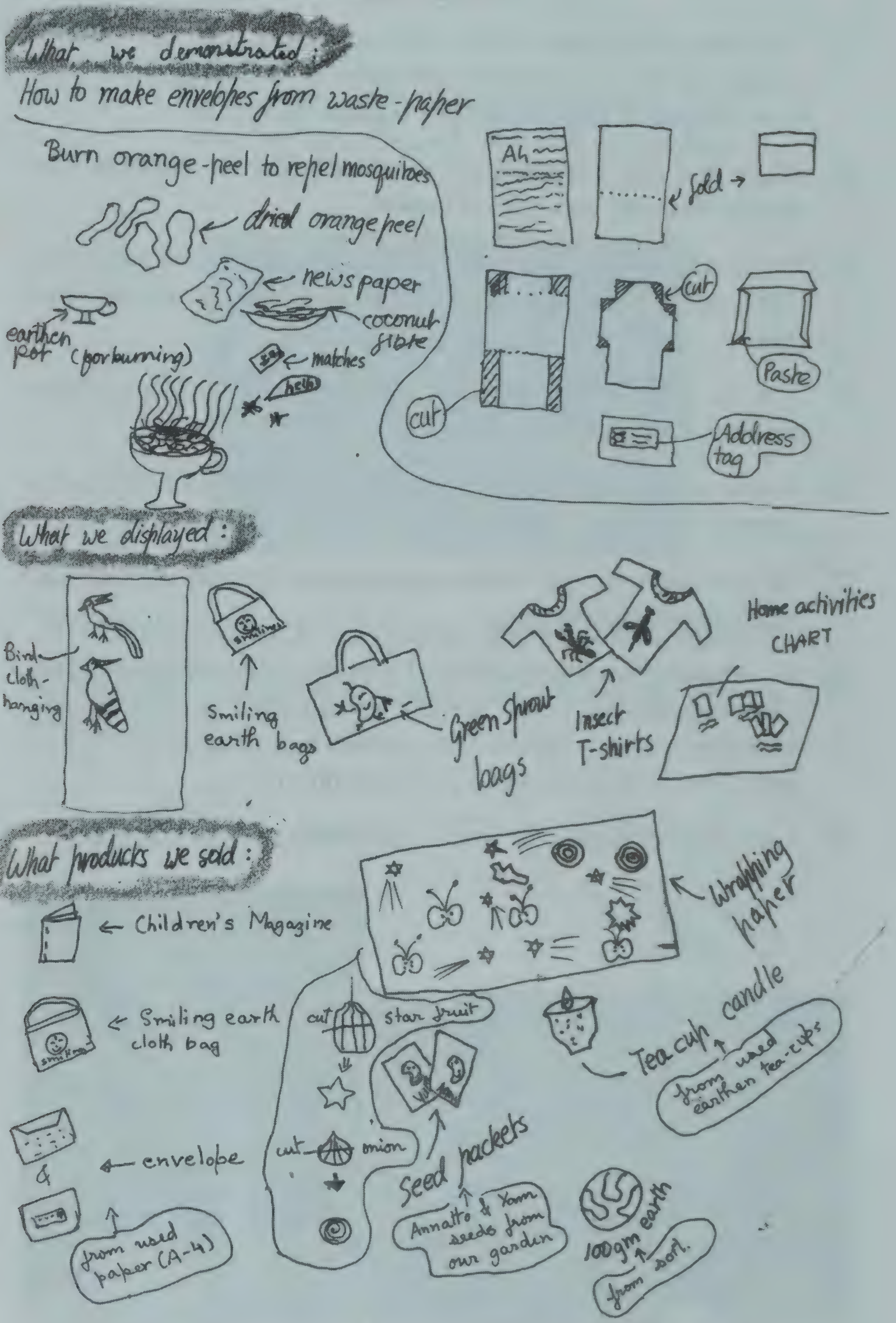
⑦ All eco-crafts should be **bio-degradable**; that is, they should easily return to the soil.

⑧ Eco-crafting turns dull, day-to-day things, into **attractive** items. This encourages other people to use your products. For example, nobody would buy a plain ball of mud but if you paint it creatively, people just may buy it!

⑨ Last, but certainly not least – **EVERYBODY CAN DO IT!**

An Eco work exhibition in Kolkata, January 2003

Variety of Ecological Craft



[Drawing by Shantonu & Manosi]

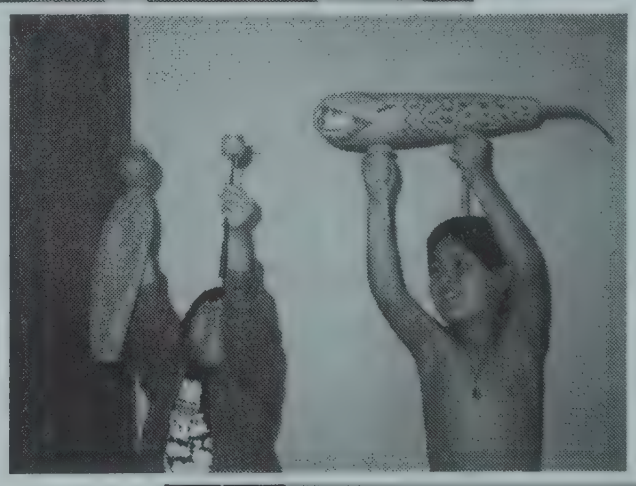
Garden Crafts

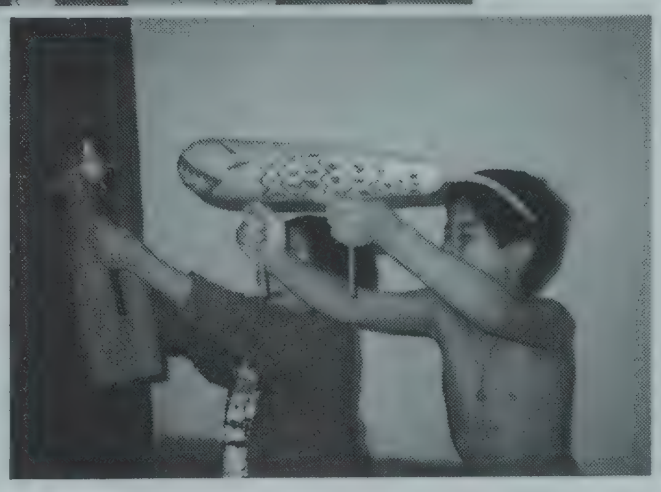
Vegetables are beautiful! Children love harvesting. After harvesting the vegetables from your home garden, you can make various crafts from them, just before eating them up.

Here we share some of our Post harvest activities ...

With red chilli
(*Hot* crown and necklace)

With fresh tomato
(Tomato seller balancing)

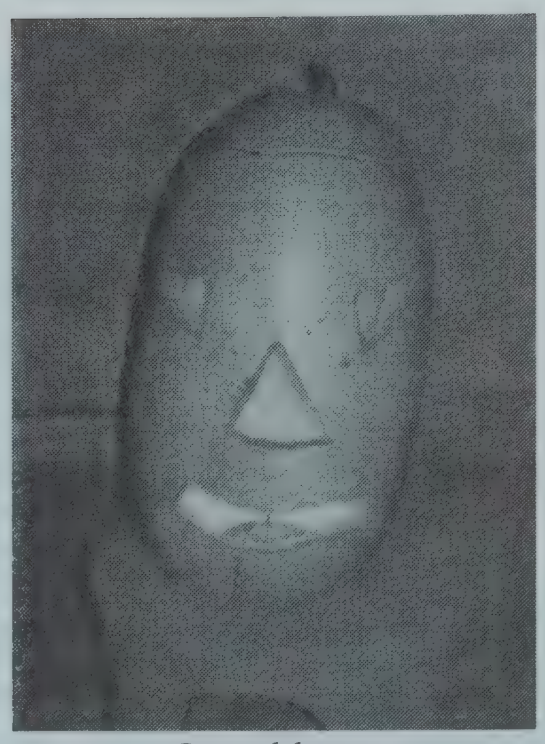




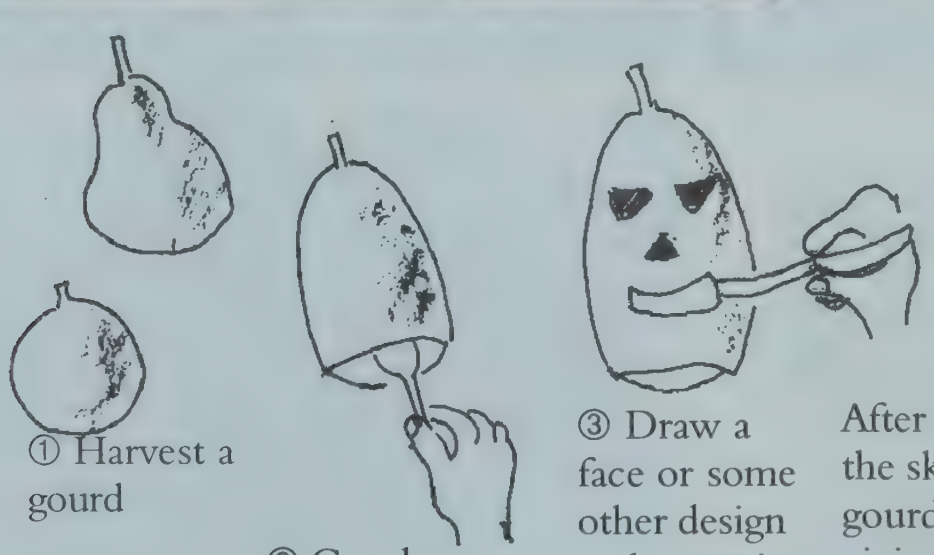
With various vegetables
(Vegetable puppet show)

With gourd

Even if gourd becomes too hard to eat when you miss the harvest timing, don't be disappointed. You can have fun with it!



Gourd lantern



① Harvest a gourd

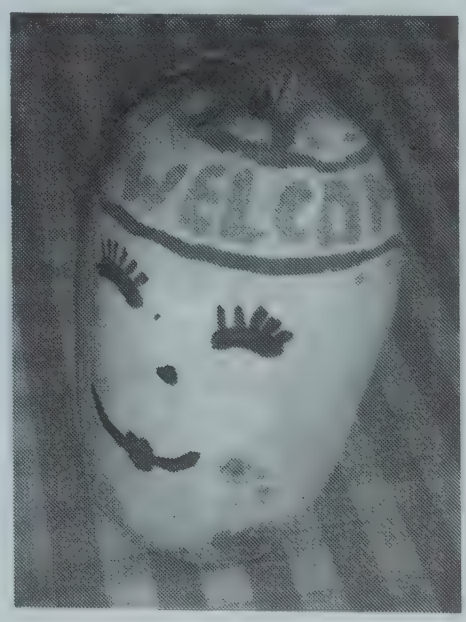
② Cut the bottom off hollow out the flesh and seeds

③ Draw a face or some other design and carve it out

④ Place a candle inside (If your candle is tall, cut off the top of the gourd for safety)

After 3-4 weeks, the skin of the gourd slowly dries up, giving you a "dry gourd lantern" you can keep for a long time.

You can also make different kinds of colourful masks from dried gourd. My children made a 'Welcome' gourd that has lasted a very long time. This mask still 'welcomes' us and all of our guests – even 10 years after we first hung it by our door.

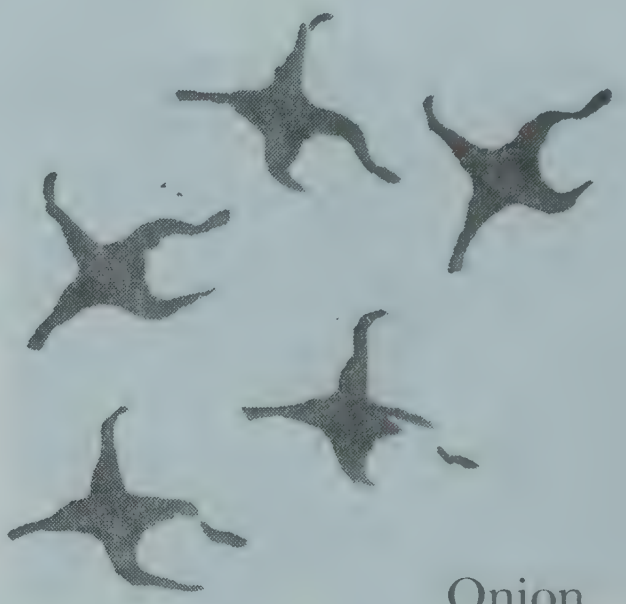


Welcome gourd

Vegetable Stamp

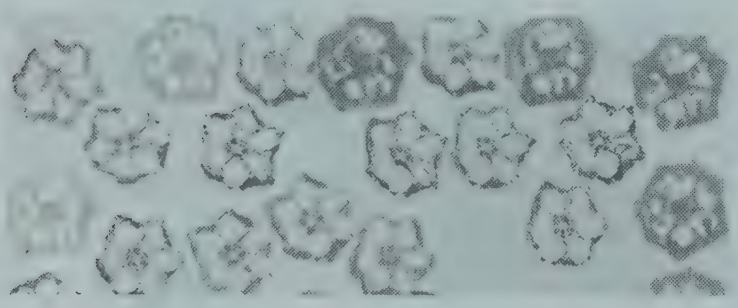
A good variety of vegetables and fruits will bring you very artistic results! You can create your own beautiful wrapping paper by cutting vegetables, putting colours on them, and printing designs on a large sheet of paper.

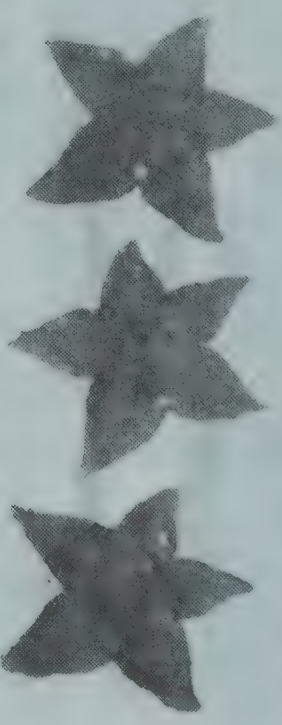
Winged bean



Onion

Okra (Lady's finger)

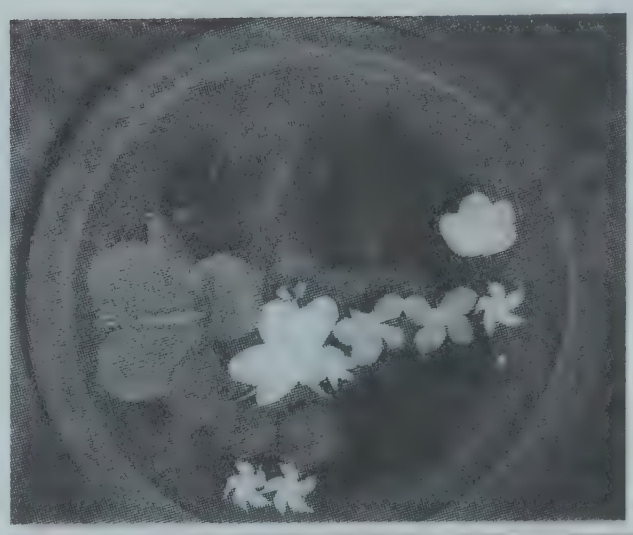


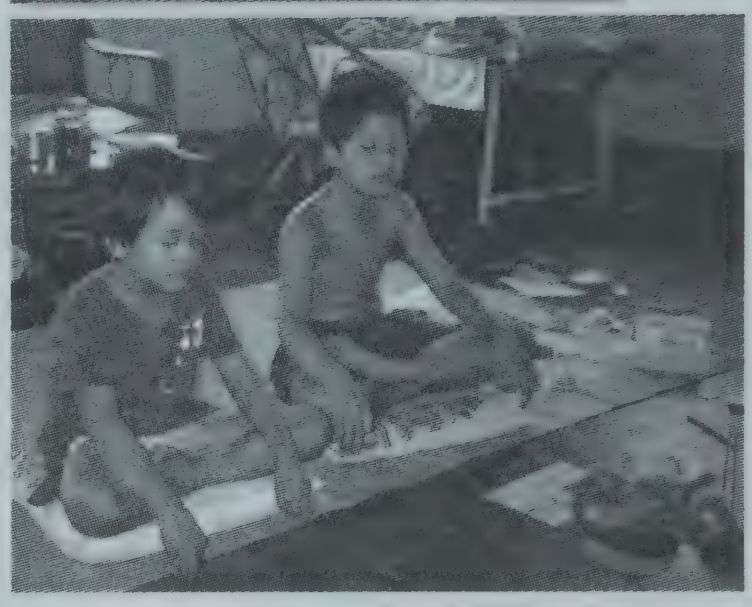


Star fruit

With flowers

Flowers from your garden can not be eaten, but they can be 'used for meditation'... And thanks to these beautiful flowers, parents can catch a moment's peace too!

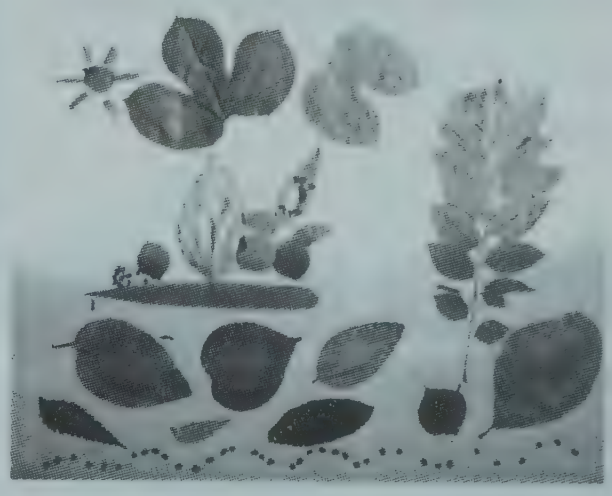




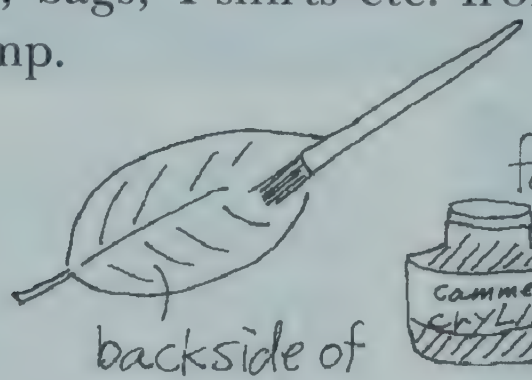
Pressed flowers can be arranged on a large sheet of paper and then carefully glued down.

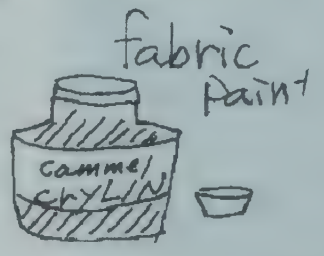
With leaves and seeds

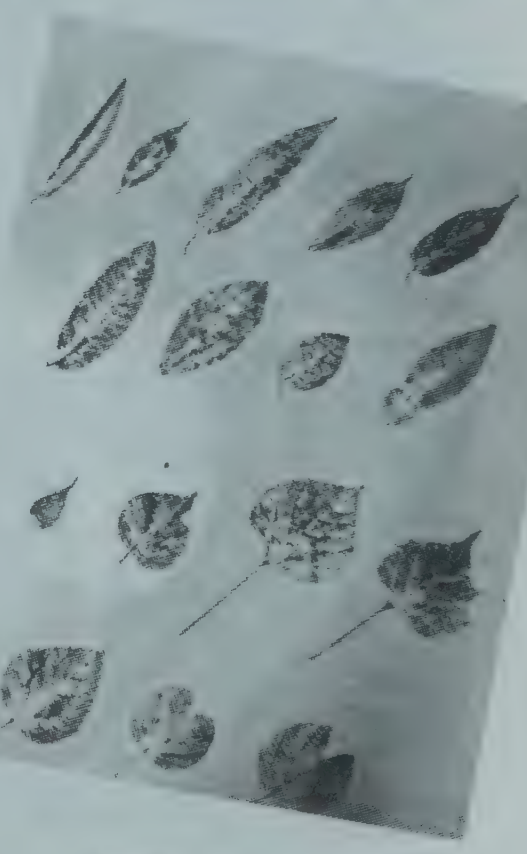
Children can work with amazing concentration when they create 'seed' pictures. This is great for practising hand-eye coordination, besides cultivating an enormous capacity for patience!

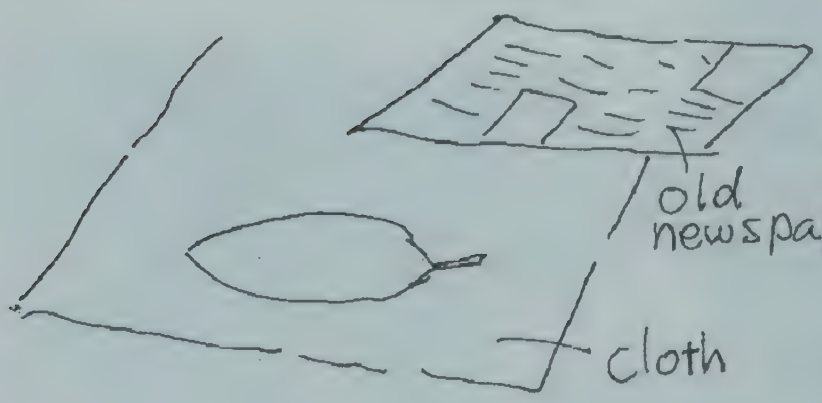


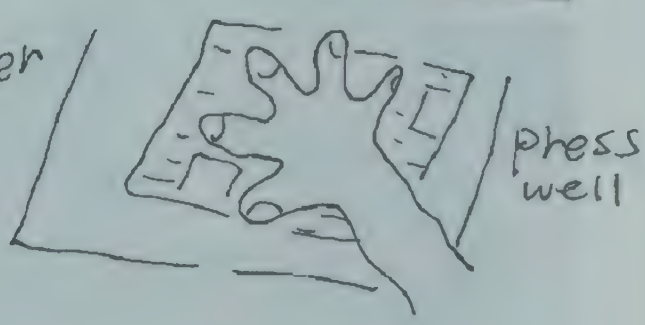
Tapestries, bags, T-shirts etc. from leaves stamp.

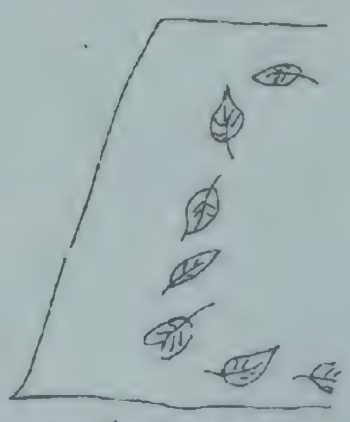






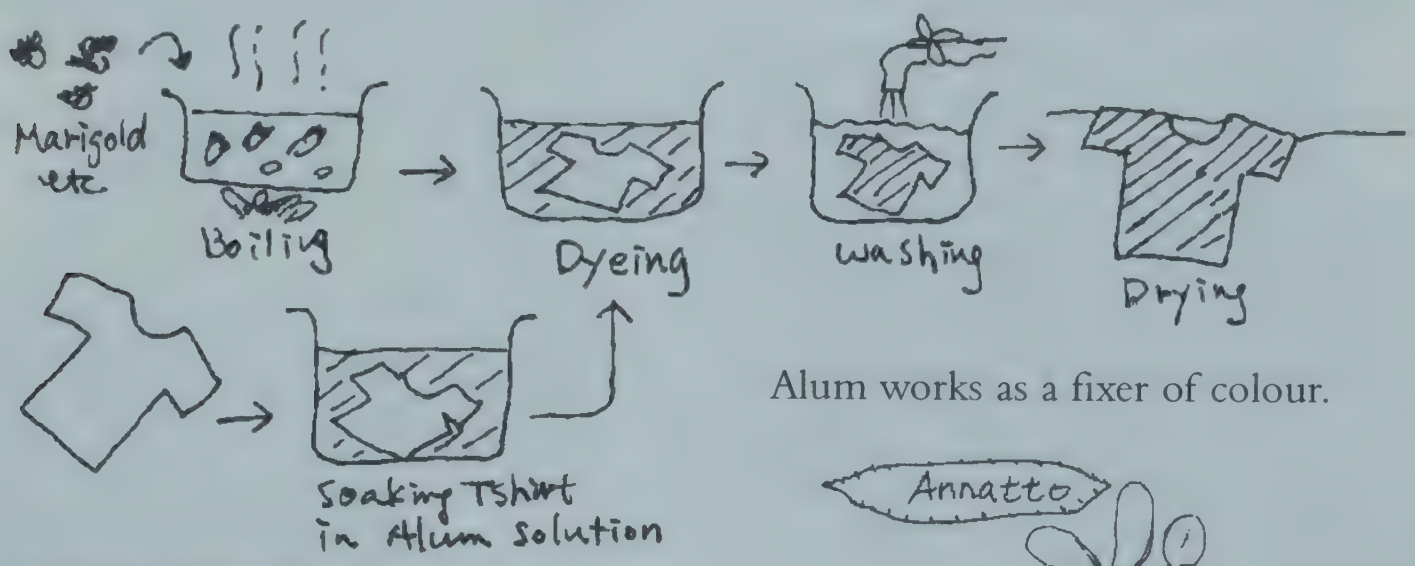




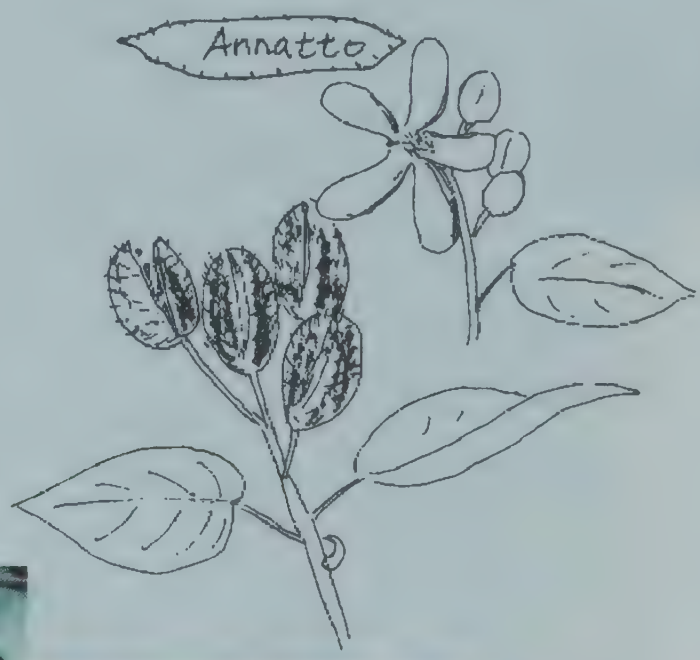


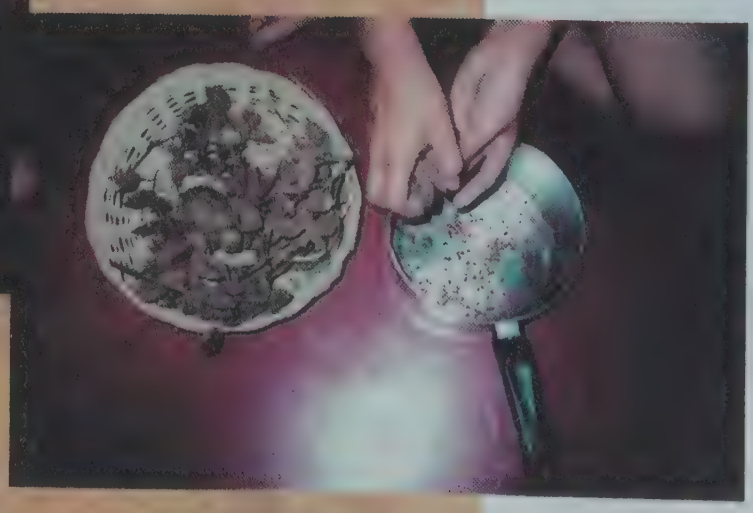
Natural dyes

You can try making simple natural dyes using marigold flowers, onion skin, etc. We used Annatto seeds that came right out of our garden.



Alum works as a fixer of colour.

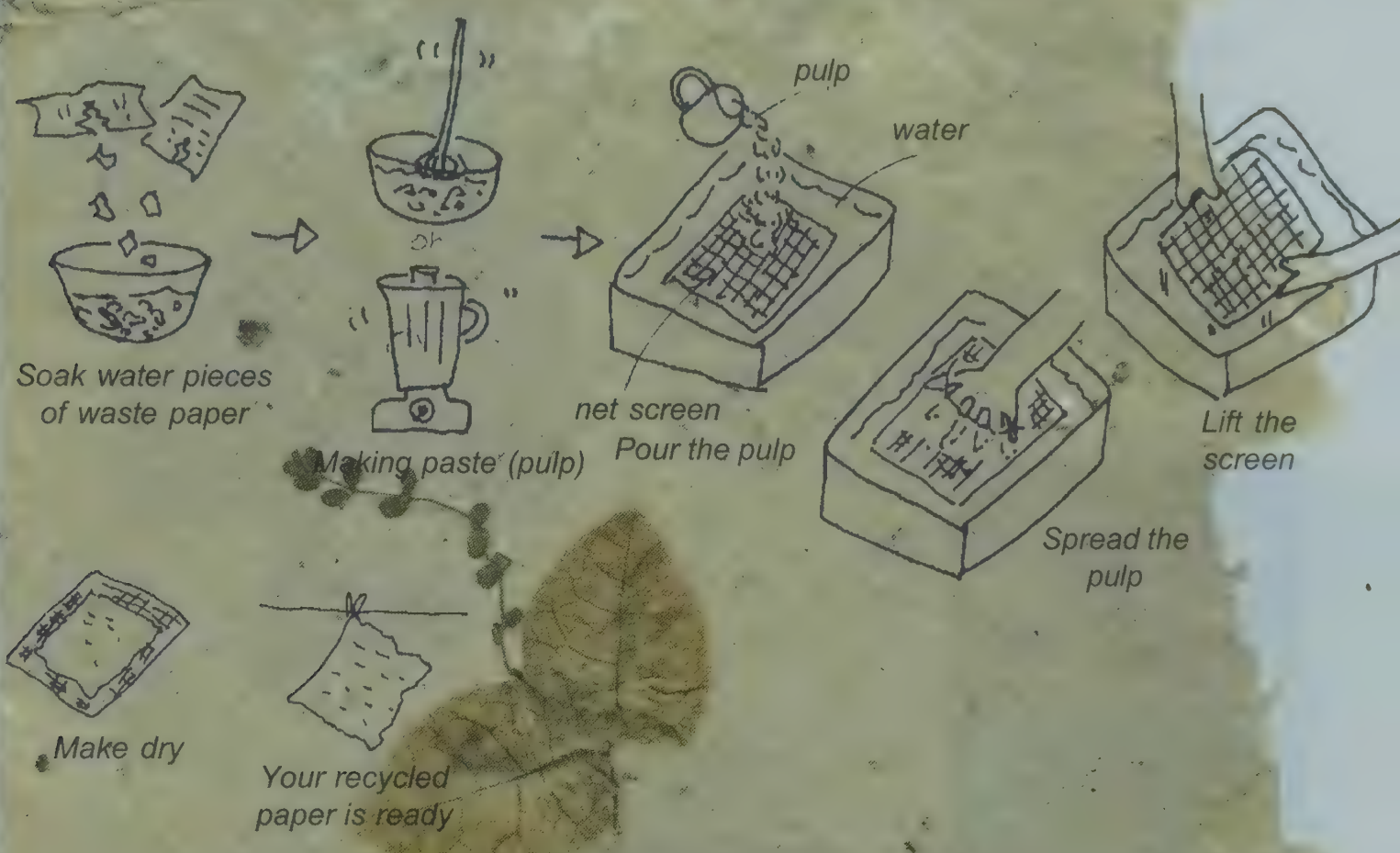




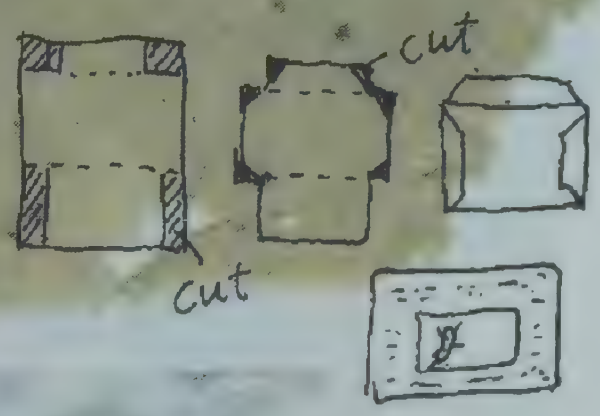
Recycling Crafts

Handmade paper

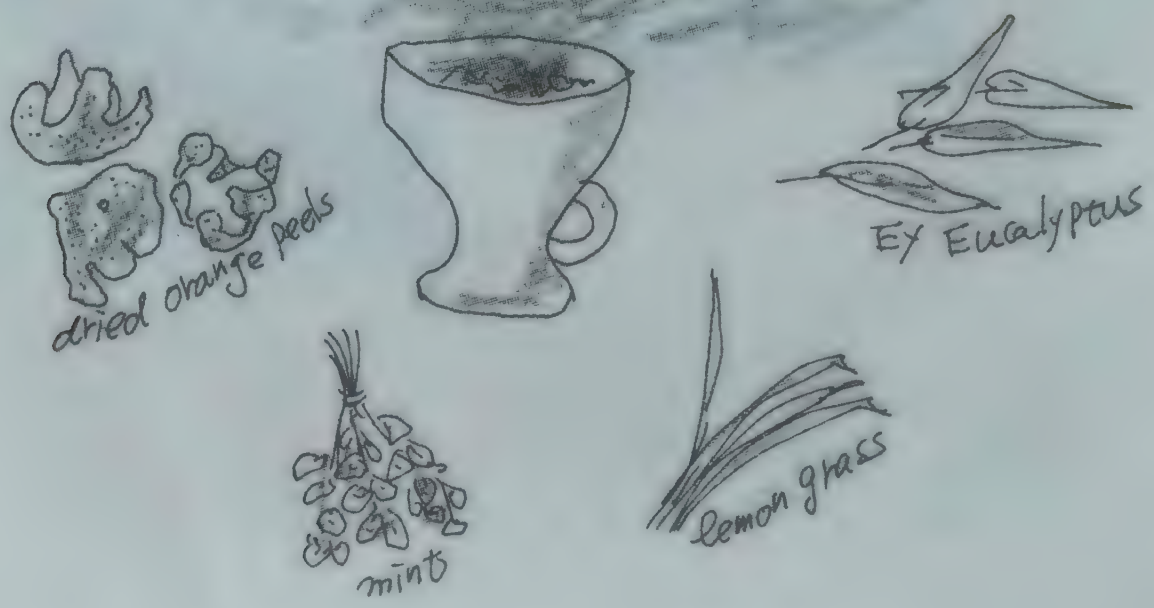
We were amazed to find that we could make the same quantity of handmade paper out of old newspapers that we had recycled.



Envelopes, name tags from re-used paper

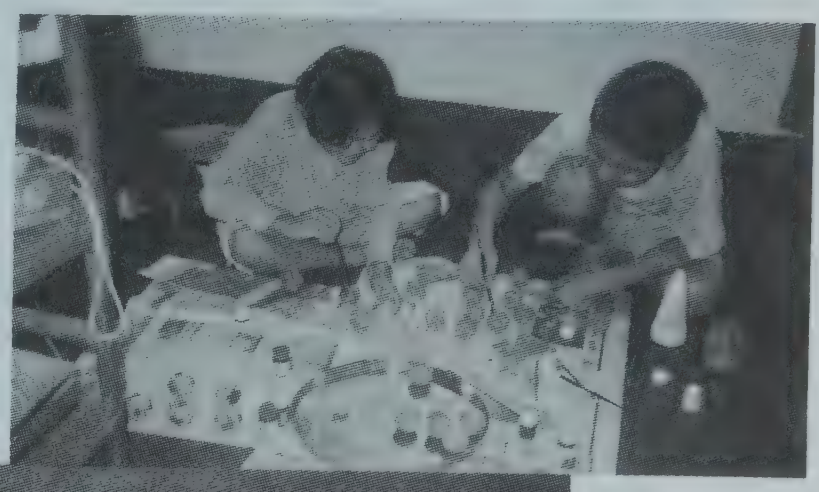


Natural mosquito repellent from orange peels

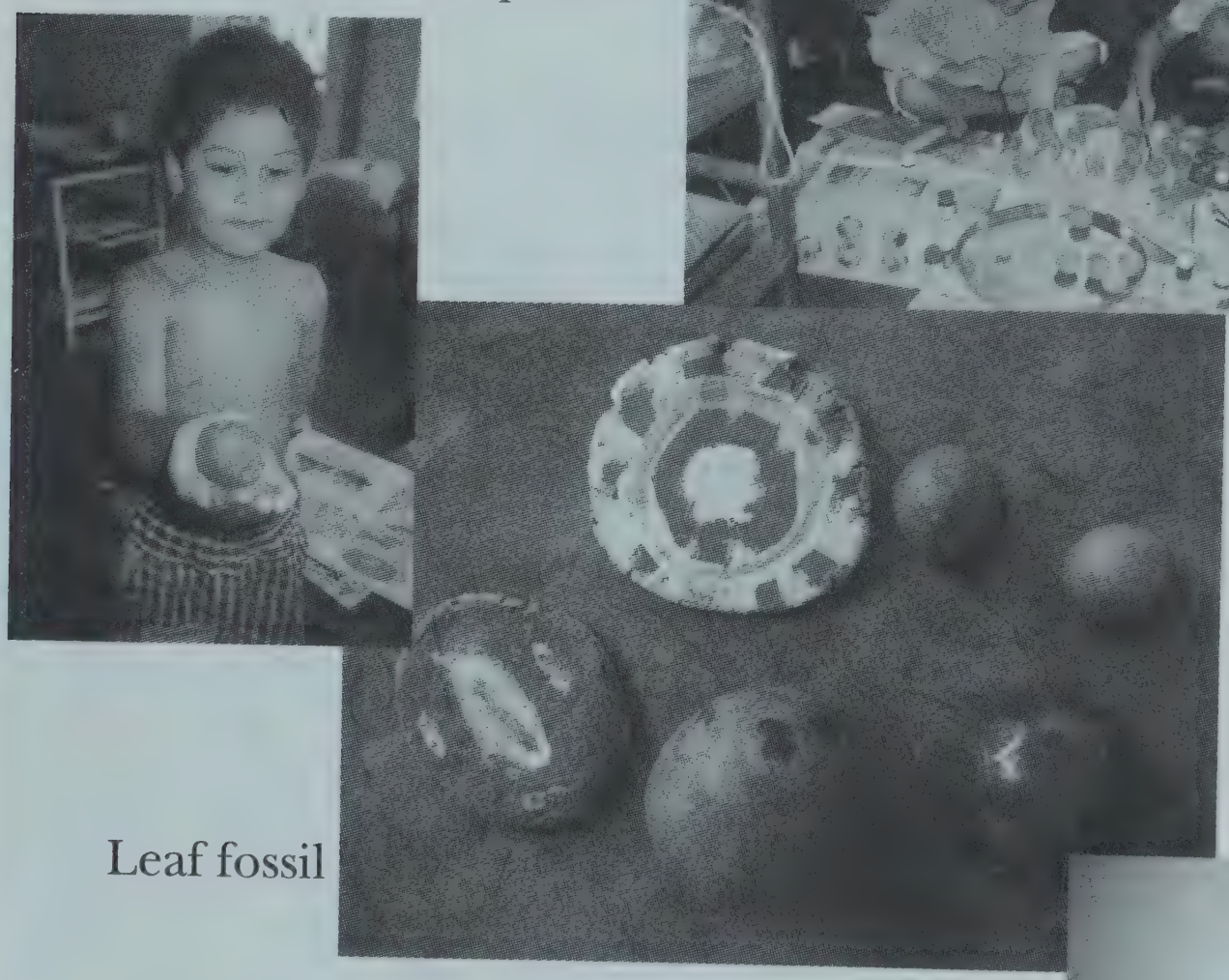


Clay Work

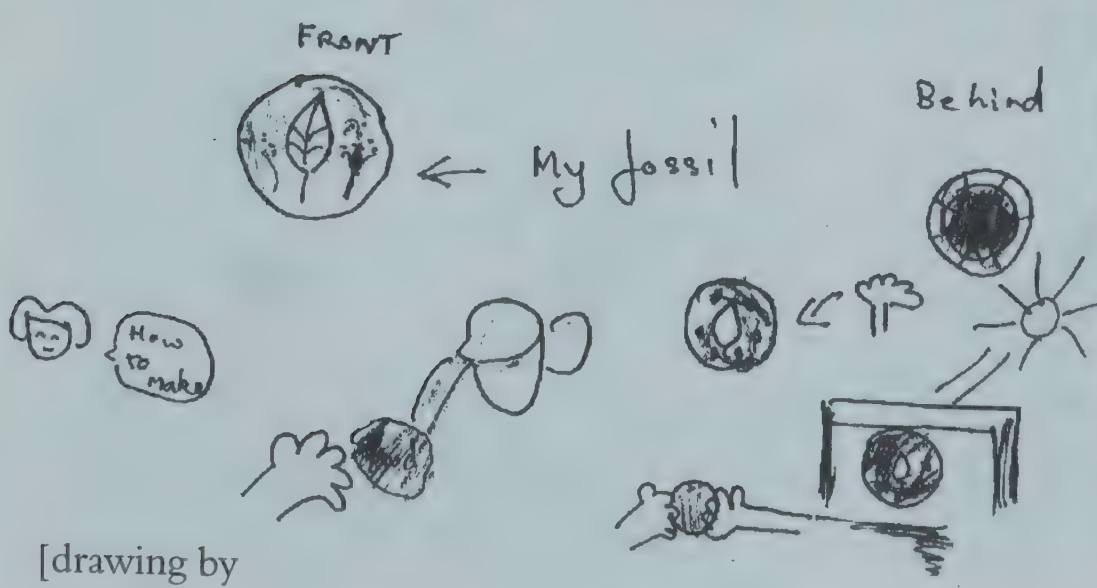
Chandernagore has many ponds, typical of the West Bengal landscape. Soil near the ponds is of the clay type and the neighbourhood playgrounds are often located besides these ponds. In the rainy season, we need to be careful not to slip as we cross the playground. My children 'harvested' this local clay-soil and used it for various crafts.



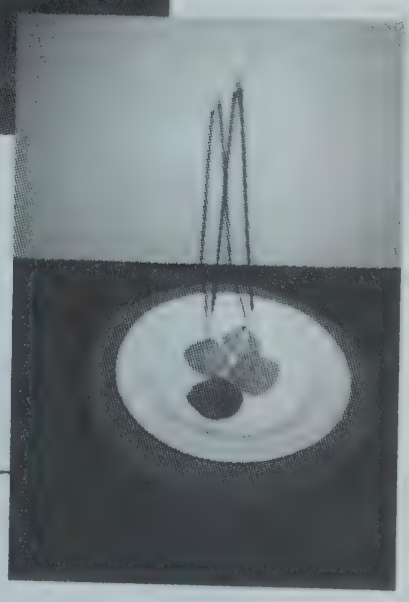
100g Earth and other planets



Leaf fossil



[drawing by Manosi]



Candle stand and incense stick stand

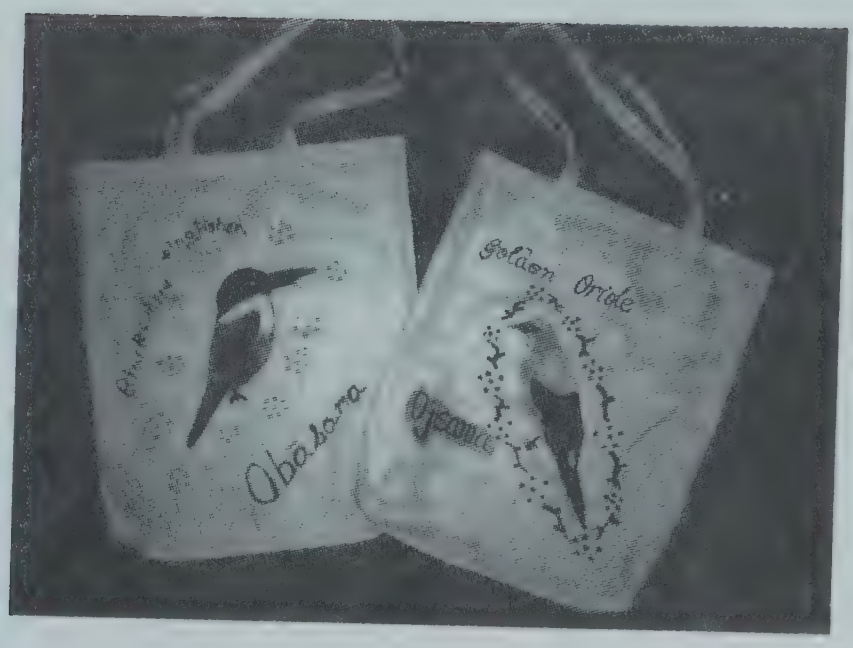
Fabric-paint Masterpiece

Bird cloth hanging

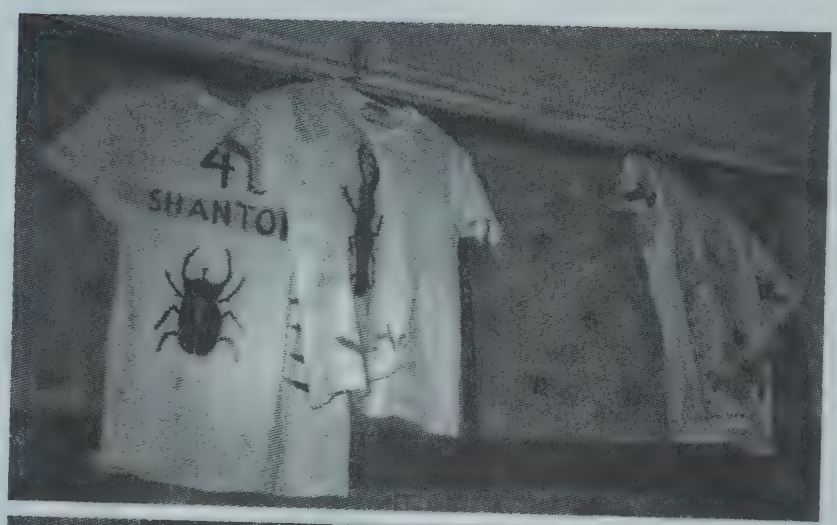
When this cloth hanging was displayed at an eco-exhibition, one person was very eager to buy the piece. He proposed a rather good price, but Green Sprout members turned down his proposal. Sorry . . . it is actually our hope that he would go home and make his own masterpiece with his children.

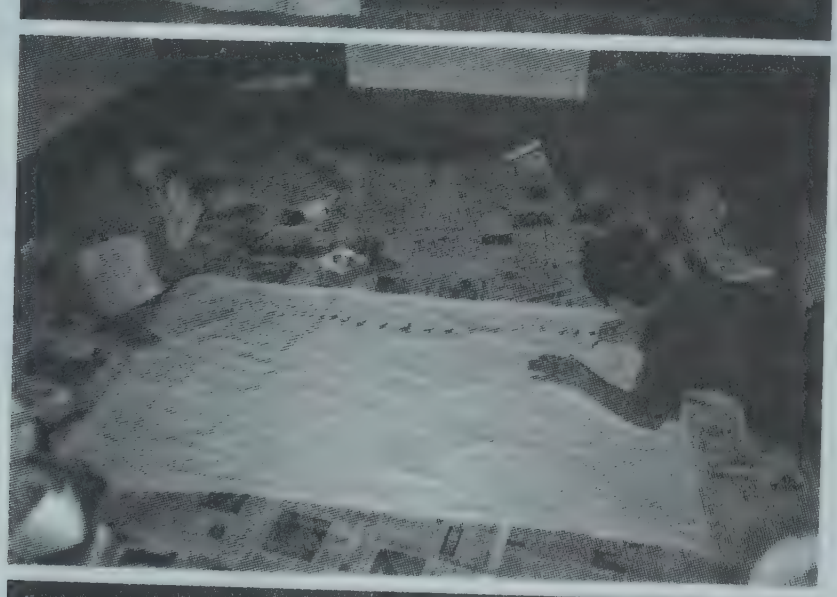
Bird bag

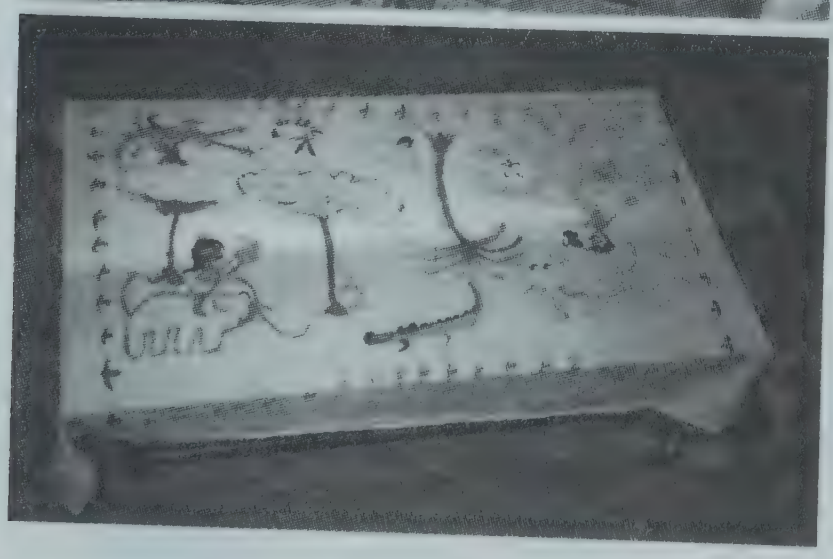
My children sent these bags as gifts to their grandparents in Japan.



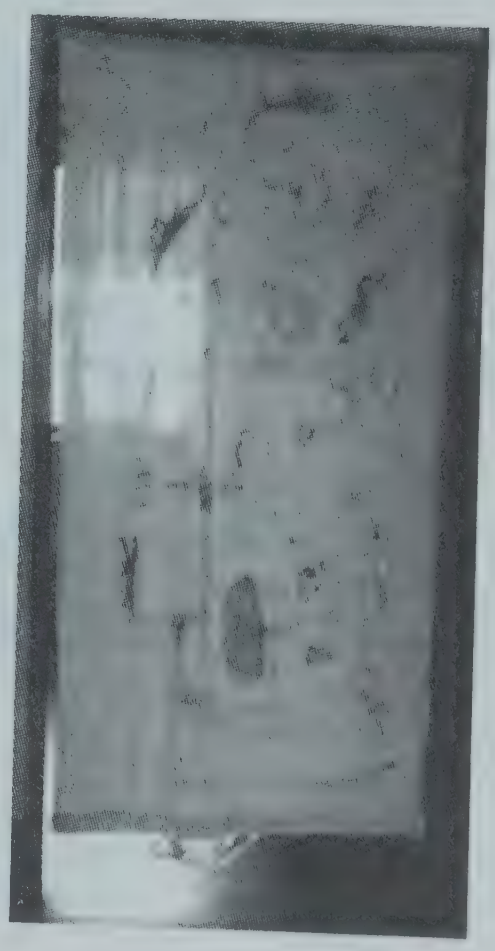
Insect T-shirts







Animal table cloth and curtain

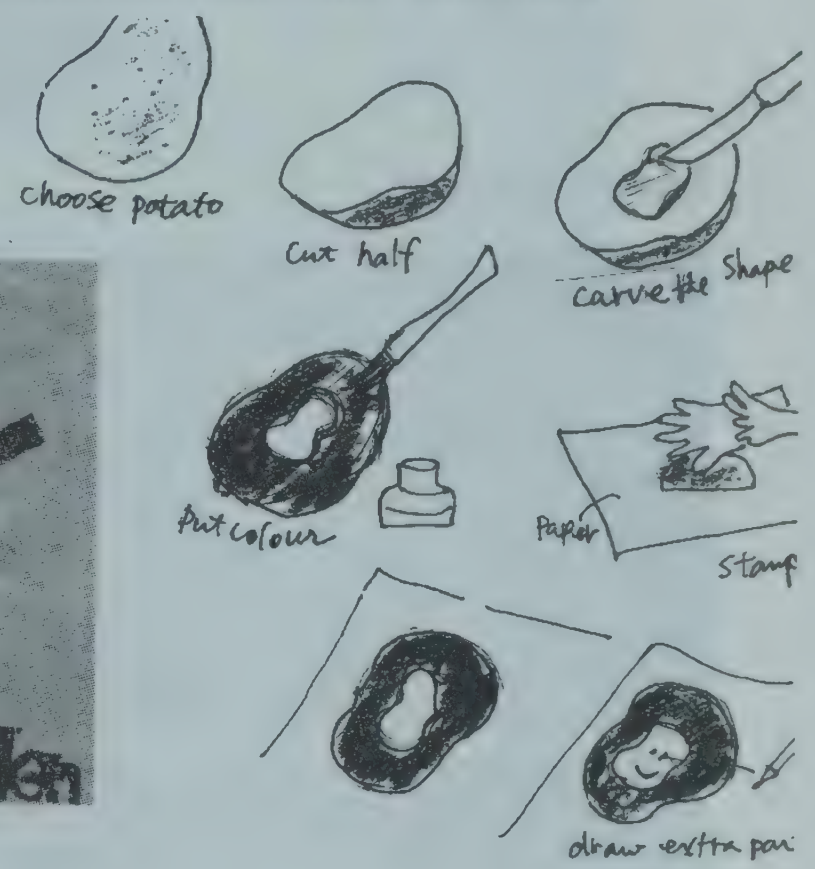


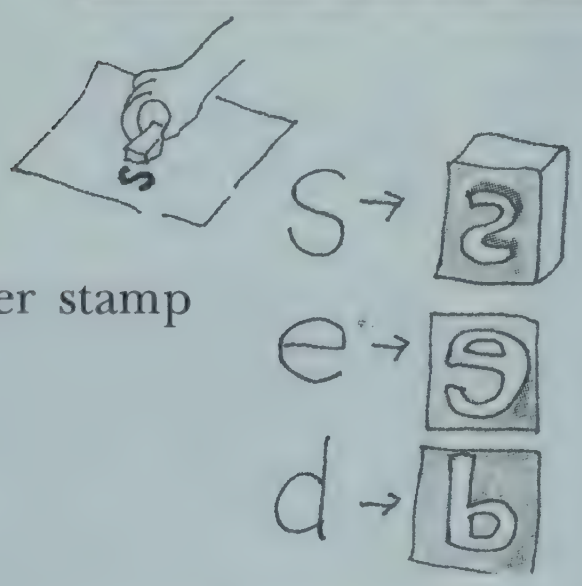
Logo Making

Creating an original logo for your home-based activities is a very encouraging and interesting thing to try. Children love designing their own logo and developing your own logo brings a special feeling to the group – gives some sort of professionalism to your home-based activities.

A logo can be made using various materials and methods.

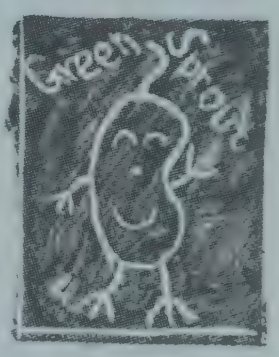
Potato stamp





Eraser stamp

Woodcut printing (you need a piece of wood, a rubber plate, and carving tools)

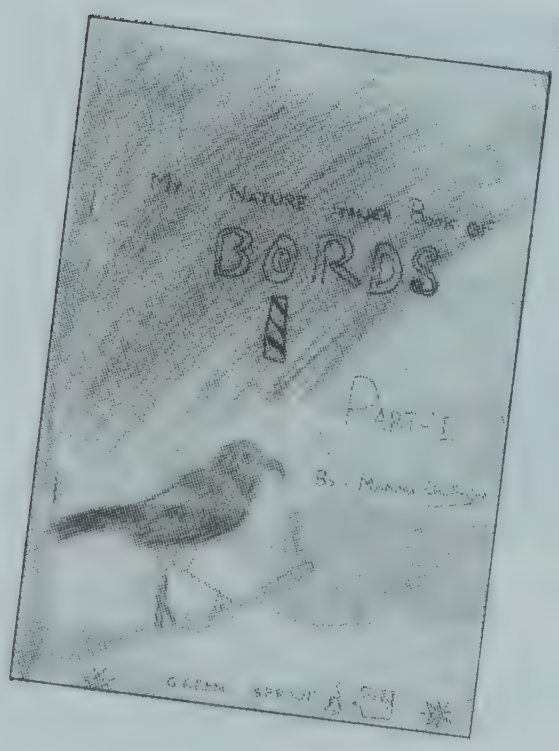


Stencils (made from cardboard patterns)

waste cardboard
cut out the shape and make the pattern
cloth bag
paint the pattern with fabric paint
draw additional part with febric paint

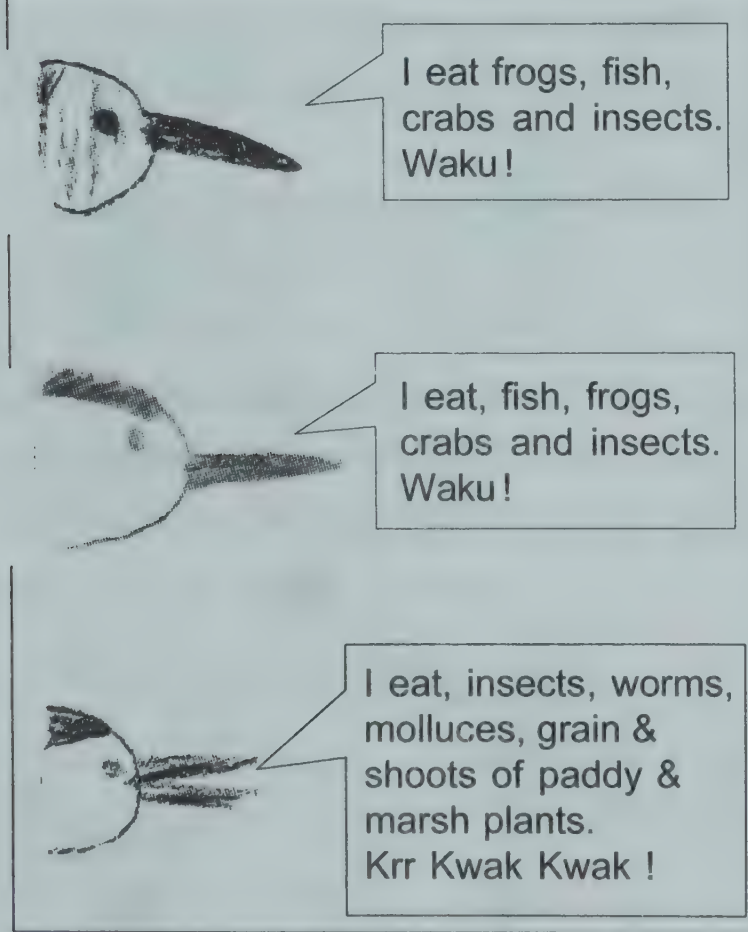
Book Making

Manosi (Class 3) made the booklet, *My Nature Garden Book of Birds*. She described twelve of the birds she often observed in our garden. She checked a reference book to look up each bird's name, description, food habits, and call.



Birds in this book

1. Koel
2. Roseringed Parakeet
3. Spotted dove
4. Pond Heron
5. Night Heron
6. White breasted water hen
7. Brain fever bird
8. Blue eared kingfisher
9. Brown headed stork billed kingfisher.
10. White breasted kingfisher
11. Black capped kingfisher
12. Hoopoe


I eat frogs, fish, crabs and insects. Waku!
I eat, fish, frogs, crabs and insects. Waku!
I eat, insects, worms, molluces, grain & shoots of paddy & marsh plants. Krr Kwak Kwak !
4. Pond heron – yellow eyes and black pupil & also black and yellow bill. Colour: light brown, deep brown and white.
5. Night heron - red eyes, black pupil. Colour: black, white and grey.
6. White breasted waterhen - little red ring around the eye. Colour: white, black & red.

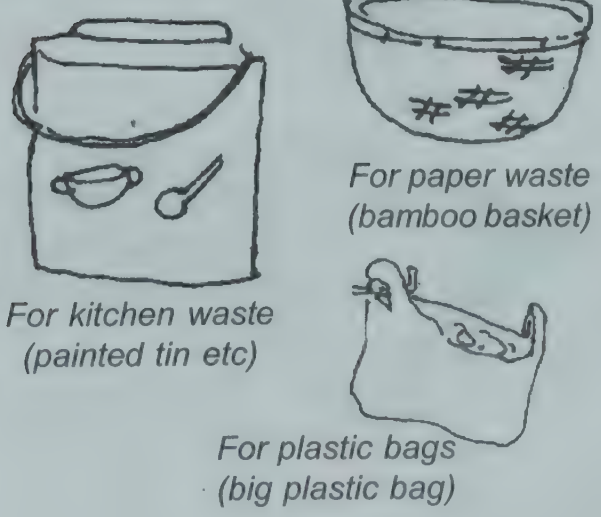
Recycling & Conservation

4Rs — Reduce, Reuse, Recycle, Rot

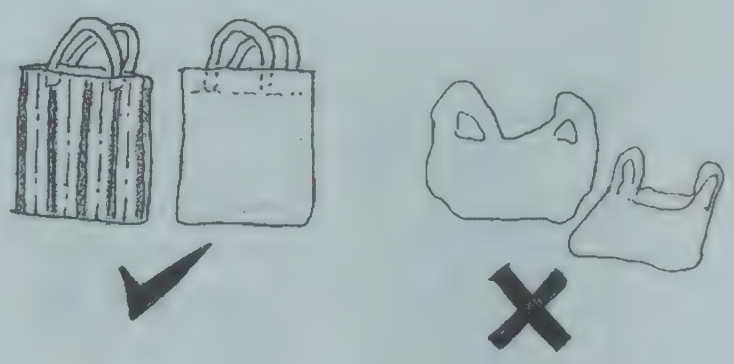
You can try introducing the 4R solution with your children for tackling household waste.

Reduce : Make it a part of your lifestyle to constantly reduce your consumption of daily goods which create waste, especially plastics

- Segregate your household waste by setting up separate dustbins.

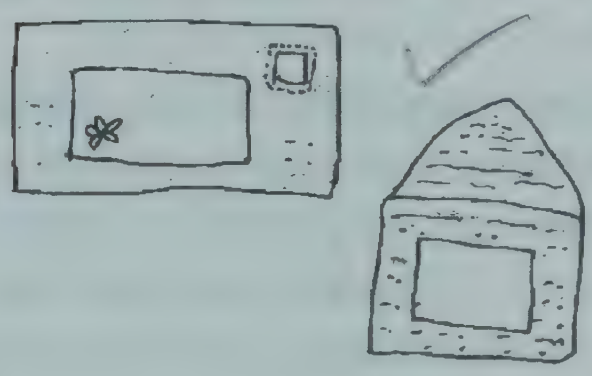


- Reduce your use of plastic carry bags. Children can make their own cloth bag designs for family members (p. 119); keep one handy wherever you go.

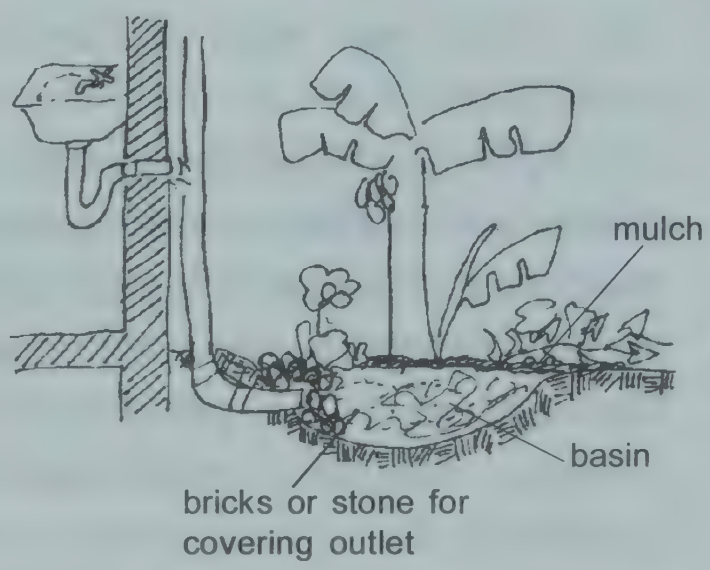


Reuse : Use waste materials over again for another purpose, rather than just throwing them away.

- Reuse envelopes by putting a label over the front; make new envelopes from waste paper

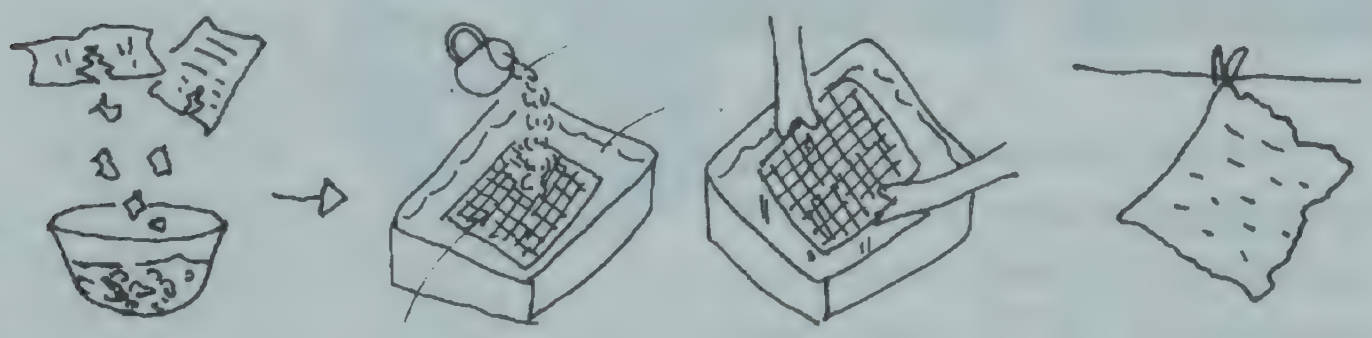


- Reuse grey water for gardening



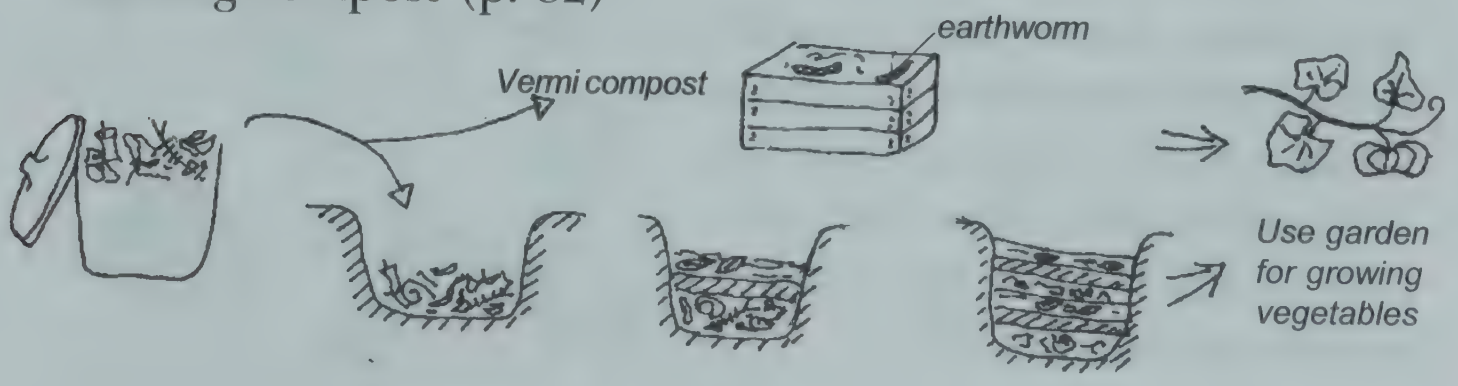
Recycle : Recycling means reprocessing old materials and waste to create usable materials or products of comparable quality. For example, children can recycle waste paper into recycled hand-made paper. You can also make your household a part of the recycling chain by categorizing waste materials into glass, metal, paper, etc., and cooperating with door-to-door waste buyers.

- Making recycled paper (p. 104)



Rot : Make a compost pit or heap to make sure the nutrients in your organic kitchen waste are going where they should – they will rot in the designated bin, and you can use the rich manure on your plants.

- Making compost (p. 82)

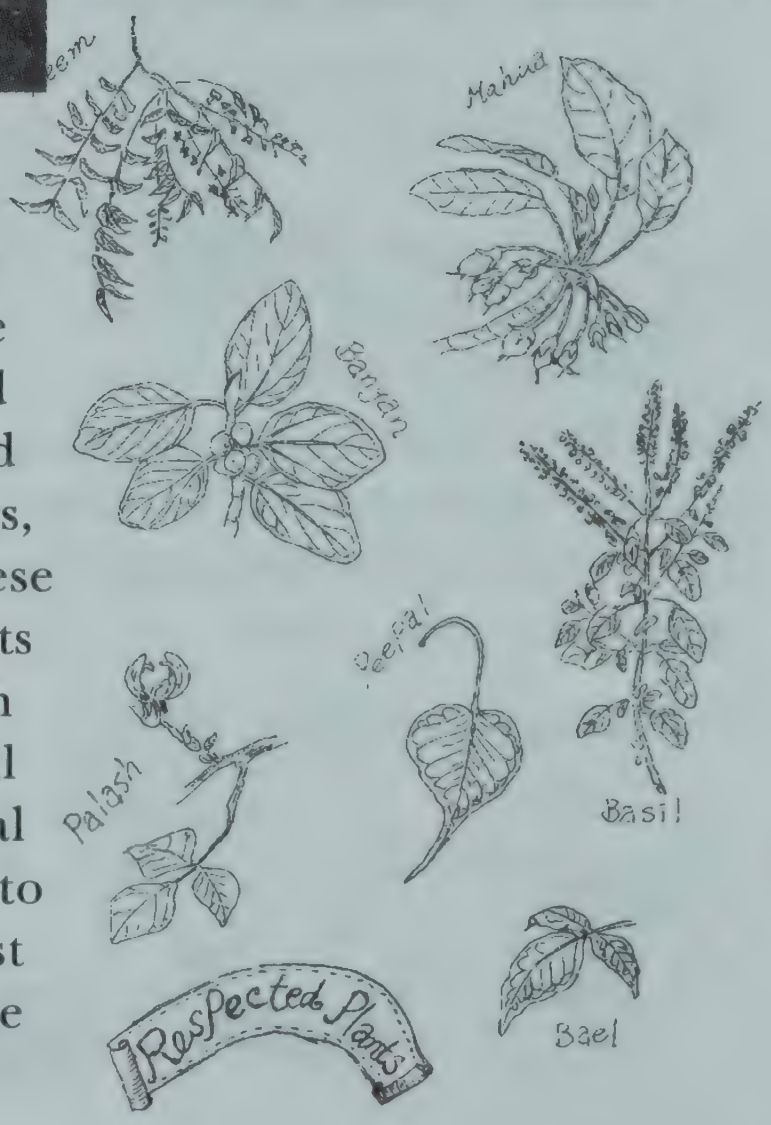


Handling of Possessions

Taking care of your own goods and using them so that they last a long time is another way to ensure that wastes are kept to a minimum. With a little help from the Hindu gods, you can encourage your children to handle their own goods with more care.

Vishvakarma is the god of tools and machines. On this festival day, which falls sometime in September, people involved in mechanical and hands-on trades usually clean up their own tools, cycles, rickshaws, various machines . . . Children can also take this opportunity to spend time cleaning their bicycles and offering a prayer that their cycles will remain "fit" and in good working condition for a long time to come.

Also in relation to Hindu mythology, there are a wide variety of plants that are considered to be holy and people believe that gods and goddesses exist in the rivers, ponds, and mountains. These kinds of eco-friendly thoughts are slowly being forgotten in the urban areas, but are still found and practised in rural areas. They help people to remember that they are just one small link in the whole ecological chain of life.

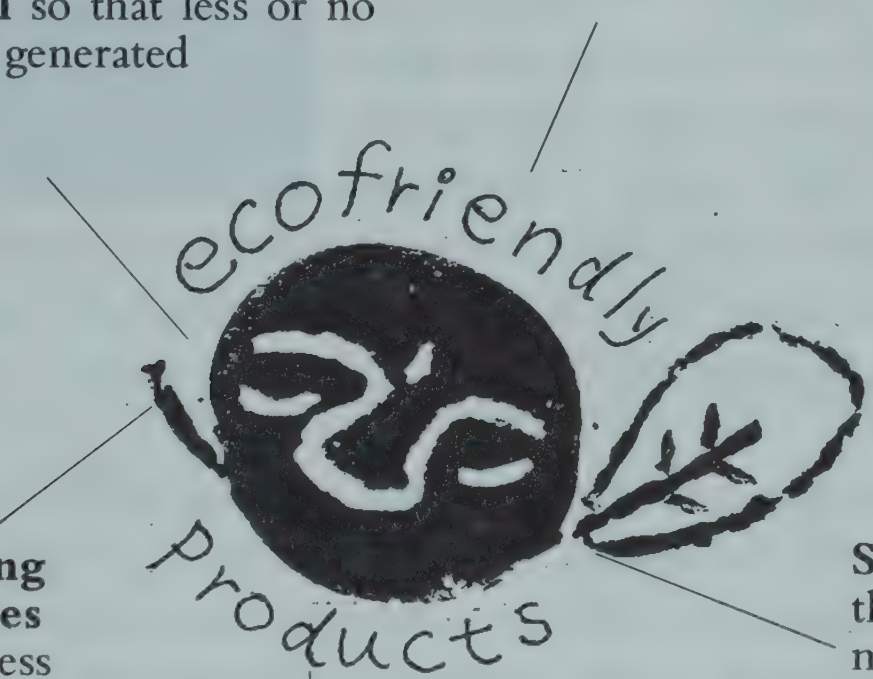


These thoughts also back up the attitude that we should take good care of plants and our surrounding environment. In other words, they are actually connected with the concept of conservation of our natural resources. It might be interesting to discuss such ideas with your children, as well.

On a day-to-day basis, it is important to consider children as "young consumers." If you show your children that you prefer to find eco-friendly products when you make a purchase, you are setting an example for them. This may not always be very easy, but do try to keep it in mind when you are shopping. Your attitude and choices now will help your children become ecologically conscious consumers in the future.

No packaging or with biodegradable packaging material so that less or no waste is generated

Local products so that producers are respected, transport energy is saved, ...



Recycling resources so that less or no waste

Safe & healthy so that responsible methods of production toward environment and human health, no pollution, organic agriculture products are preferable

Usage of local natural resources so that wise management and conservation toward local natural resources is possible

Soap Making

Did you know that old cooking oil can be used to make handmade soap? Why not give it a try?

When 1 cc of the cooking oil we use gets drained from our kitchen sink into the sewage system, the ecosystem requires 198 litres of fresh water to bring the water quality back to a level in which fish can survive.

Soap (made from oil and caustic soda) is also more eco-friendly since it is biodegradable, as compared to factory-made detergents that can badly affect our environment, especially water bodies. Detergents (found in washing powder for clothes and dishes, shampoos, even toothpaste) contain chemical components, surface active agents like LAS or ABS (Alkyl Benzene Sulfonate) and phosphates, which work to increase their cleaning power. However, these chemicals are harmful to our health in the long term and don't biodegrade easily in natural systems, remaining in the soil and water as toxic pollutants.

There are two general processes for making soap. One is a boiling process and the other is a cold process. The boiling process is quick, while the cold process takes more time.
The cold process may be more suitable if you are working with children because it is generally safer and easier. It also saves fuel wood.

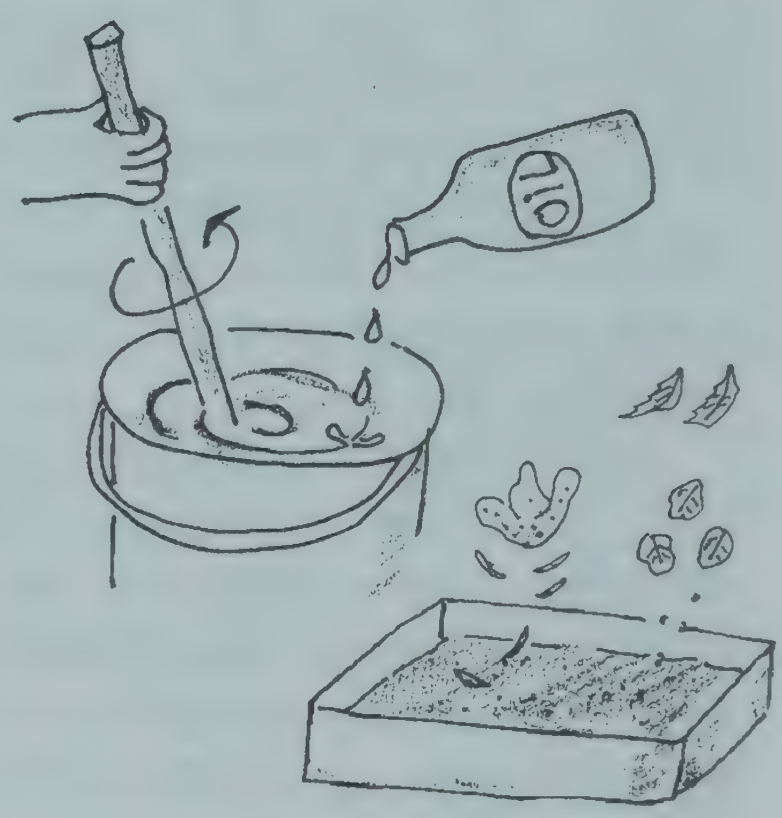
You can try out the following recipe:

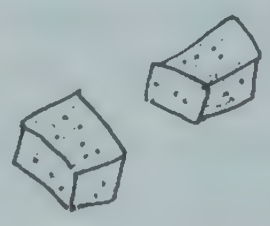
Ingredients

- Leftover kitchen cooking oil (3.3 litre)
- Caustic soda (500 g) available from any hardware shop
- Water (1000 cc)
- Herbal additions (basil leaves, extract from neem leaves, dried orange peels, etc.)

Method

1. Put caustic soda and water into a metal bucket and stir slowly (Be careful – as the temperature will rise as high as 100^0 c)
2. Once Solution 1 has become transparent; add the oil little by little and stir continuously.
3. Continue stirring for 30 minutes till 2 becomes thick.
4. Now add herbal items, and pour into the containers/trays.
5. Cover 4 with a cloth and leave to set for about one month.
6. Cut 5 into pieces; use your soap for washing dishes and clothing.





***Note:** If you want to make bath or facial soap, it is better to use fresh vegetable oil.

The Problem of Over-Packaging and Waste

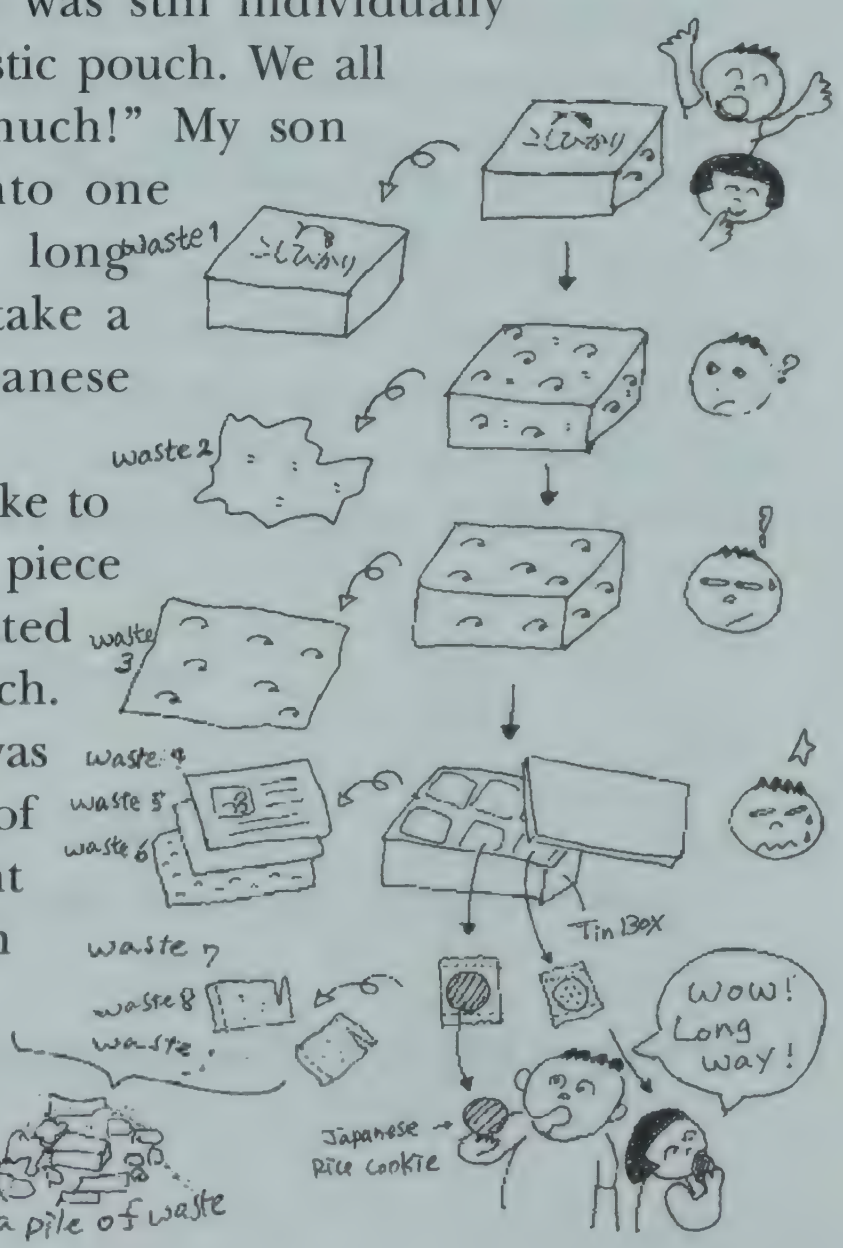
I share the following experience to demonstrate a common problem that relates to packaging in a so-called 'developed' country like Japan. It seems obvious to me that developing countries should not simply follow the systems mapped out by developed countries, especially when it comes to packaging.

My mother in Japan sent a parcel to my children in India. Of course, my children were very happy to find there were sweets inside the parcel; and after I gave my permission, they started opening it up.

They first removed a thin cardboard box cover, ***then*** they tore into another thin, plastic cover, ***then*** they unwrapped a layer of wrapping paper to find a tin box inside. They opened the cover of the tin box cover and rolled back several sheets of paper that had official greetings written on it in Japanese (which they could not even read . . . so it was totally 'wasted' on them). They then had to remove a plastic protection sheet . . . ***then*** . . . had they finally reached the sweets? No! To their great disappointment, they found that each sweet was still individually packaged in its own little plastic pouch. We all shouted, "This is tooooo much!" My son brought scissors and cut into one packet. Finally, after this long struggle, they were able to take a bite out of one of the Japanese sweets!

It seemed almost like a joke to us – why would such a small piece of sweet need such complicated wrapping?! It is simply too much. As I am Japanese myself, I was deeply upset to see the pile of packaging waste sitting in front of us. I even took a photograph of it as evidence!

With this in mind, think about some of the traditional Indian ways of packaging

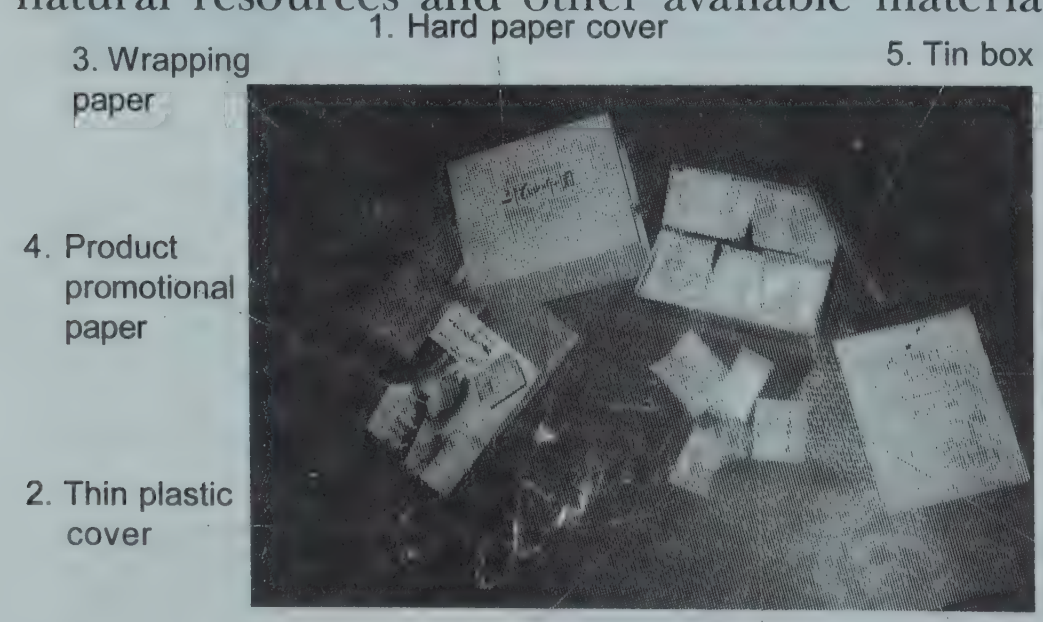


things – simple, natural, and much more energy efficient: *thonga* (newspaper bag), brown paper (usually tree-free paper), wax coated paper, tree leaves and lotus leaves are just some of the materials that have been used for packaging in India. The situation is, however, changing very fast these days. Various factory-made products are increasingly being used and most of them are packed in plastics. As a result, there is a noticeable rise in the amount of plastic waste being created here in India too, with no foreseen plan to deal with it.

There is no doubt that plastics hold certain advantages as packing materials and have contributed greatly in improving our quality of life and technology, especially in areas such as transport, communication, and electronics. But we need to reduce the unnecessary use of plastic creating non-biodegradable, toxic wastes. Many people neatly put it out of their minds that plastic comes from petroleum, a limited fossil resource. We should also remember that in addition to its use and disposal, the production process for plastic also creates great environmental health hazards.

Compared to plastic packaging, using traditional Indian materials is actually much more 'advanced' in terms of the ecological impact. Indians should be proud of these original systems, and not just blindly follow the "throwaway culture" that has become the norm in developed countries.

Children can take positive action to reduce plastic waste after they have come to realise the value of traditional materials that are eco-friendly and represent a more sustainable way of utilizing natural resources and other available materials.

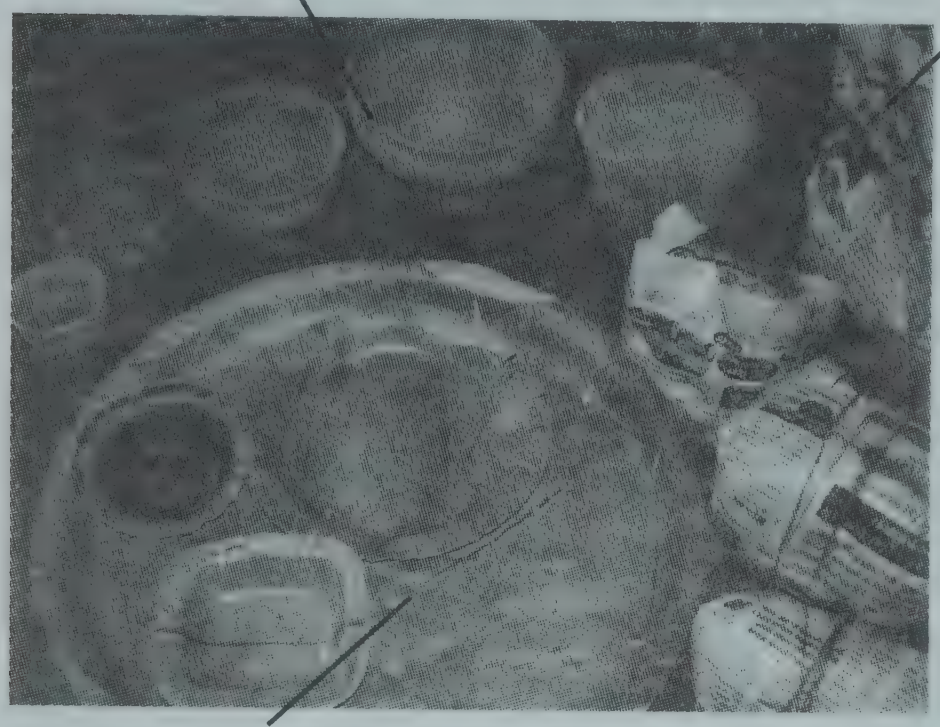


Evidence of over-packaging in Japanese products. (1-9 : packaging, 10 : the sweets)

Respect and use traditional packaging !

Earthen disposal cup (*bhar*)

Old newspaper packets (*thonga*)

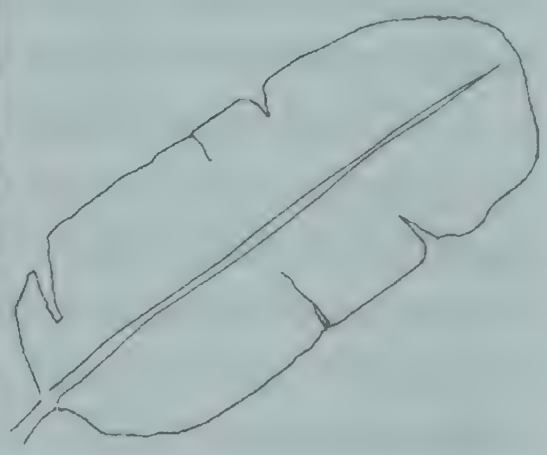


Leaf plates ('saal pata')

'Thonga' is widely used in local grocery shops

Thonga is unique! Often school test papers are used. Though the maths' answers are wrong, it is very correct as 'Recycling'.

Let's make a banana leaf container



Hold Banana leaf and cut oval shape (use young leaf)

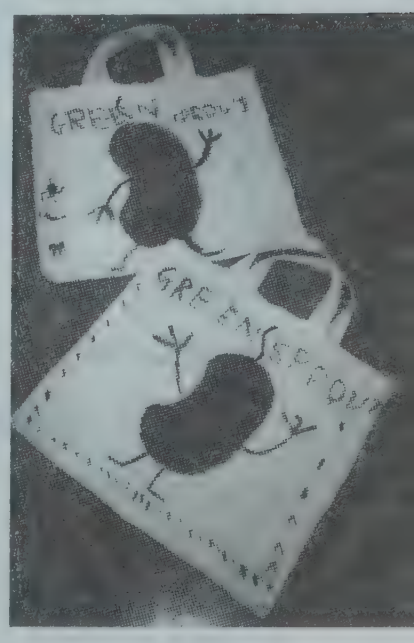
Hold opposite side

Combine both the sides, making a small mountain in the centre

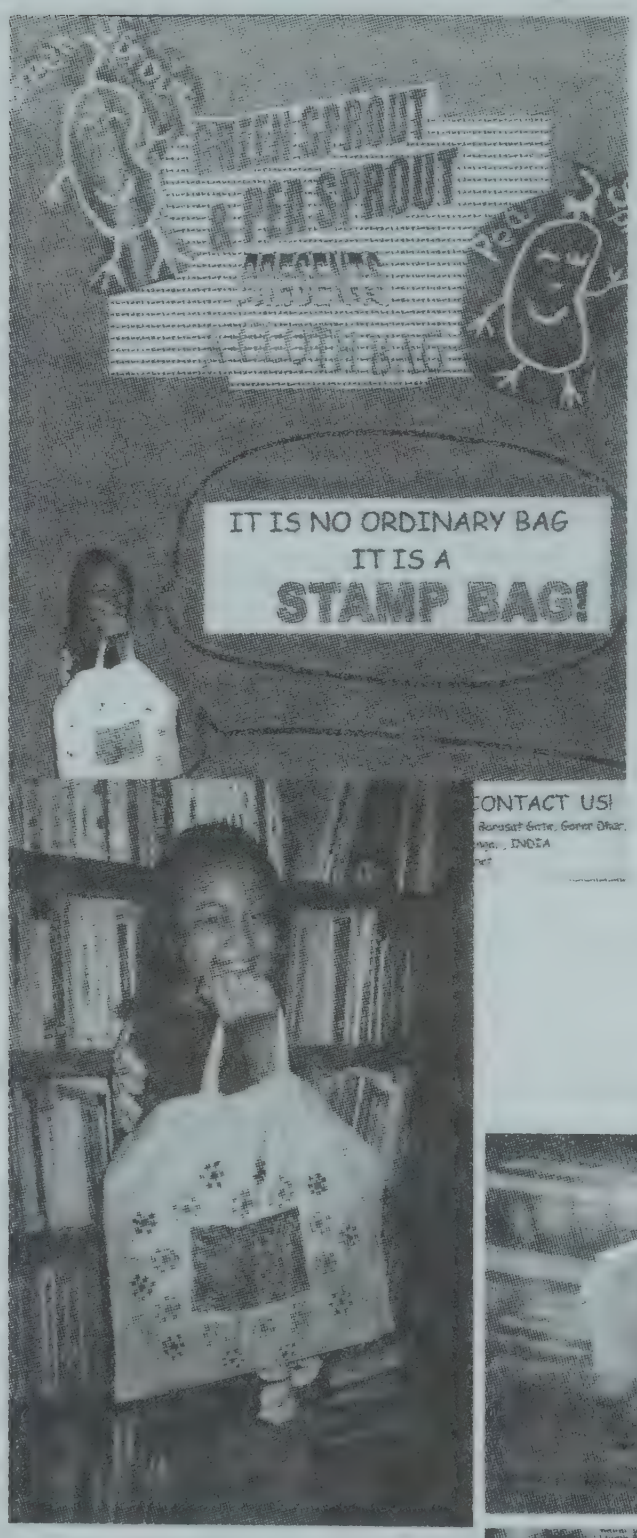
Put the stick to connect the joint

Turn over. Small bowl ('bati') is ready

Eco-bag

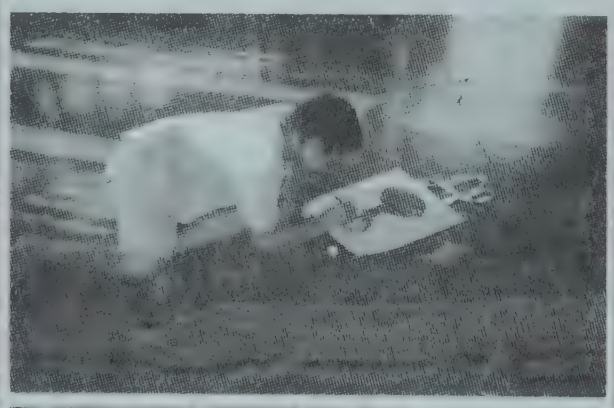


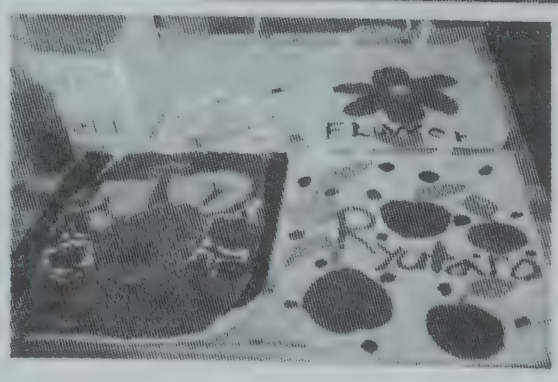
Green Sprout has a message for you:



Green Sprout helped other children and eco-groups to make bags in several workshops.

"The reason we made this bag is because we want to reduce the use of plastic packets. We have seen many places where plastic packets have just been scattered around everywhere, greatly disturbing Mother Nature. And the plastic packets are also making our lives uncomfortable. So, try save nature. We made this bag by stamping the Green Sprout and Pea Sprout logo on it with fabric paint. It's fun. You can also do it using your own logo. You can do it as a family activity too."





Handmade Solar Cooker

As I mentioned in our solar cooker episode (p. 43), my son was involved in making several handmade solar cookers himself, so I decided to borrow the poster he made for his school science project to see how to make one.

'Hi! Friends, here's a way to have fun, learn something, and actually help! It's the **S**cience, **S**weat & **S**olar project!

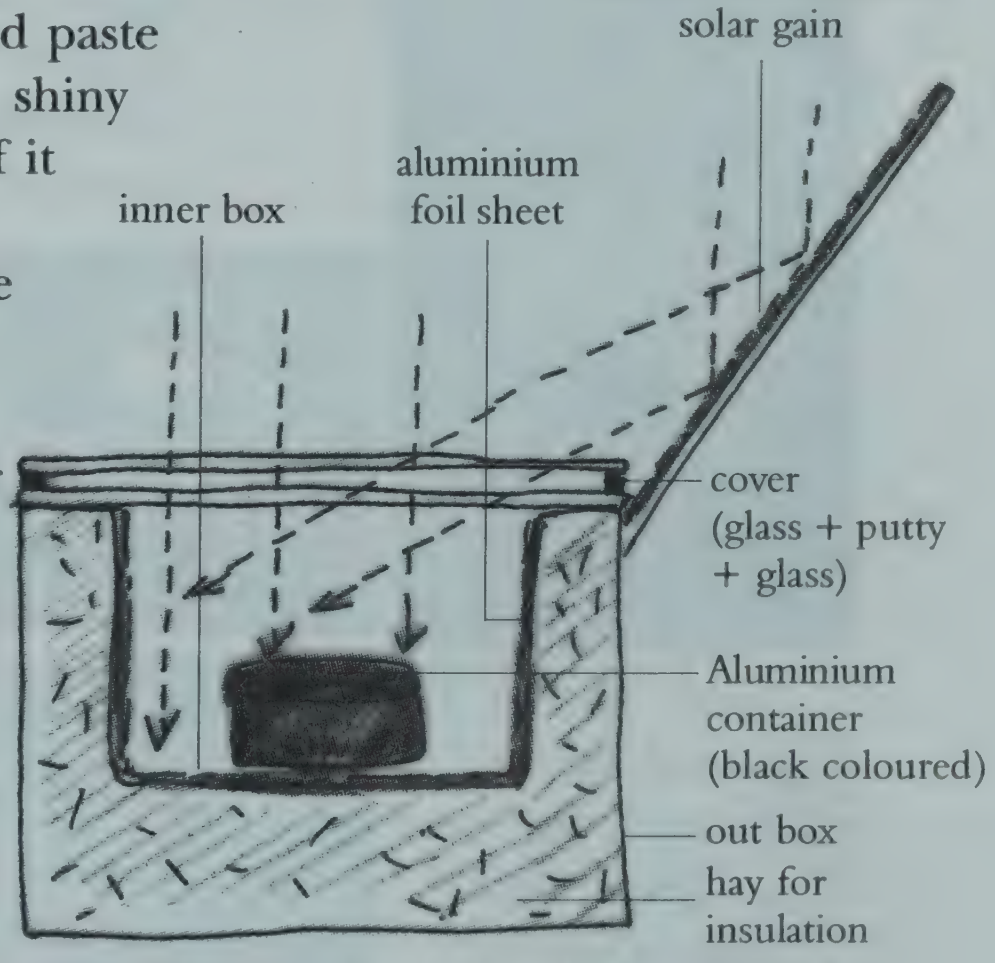
Here is a list of the things you will need :
2 rolls of aluminum foil, 1 big box and 1 smaller-sized one, hay, glue, tape, 2 glass sheets and putty.

How to make:

- Seal up the bigger of the two boxes to trap air within it.
- Stuff it with hay.
- Close the box and cut a hole in its top according to the size of the inner box.

aluminium foil covered reflector for additional solar gain

- Take the inner box and paste aluminum foil onto it, shiny side up (don't worry if it crinkles). Once this is finished, paint the base and three sides with black poster paint.
- Now insert the smaller box into the bigger box and tape it up. This is the first part.
- Find a large piece of flat cardboard (bigger than the area of the smaller box).



- Paste a sheet of aluminum foil onto it. It should be pasted onto the side opposite the shiny side of the solar box. Now, take the two glass sheets and make a sandwich of glass and putty to ensure that no air escapes or gets in. It must be dead air space.

- Place the glass sheet on the box, ensuring that no air can escape. If there is a gap between the glass and box, it can be levelled out with putty.
- Finally, you need to paint an aluminum tiffin carrier with black shellac paint.

Now we go to the Science!

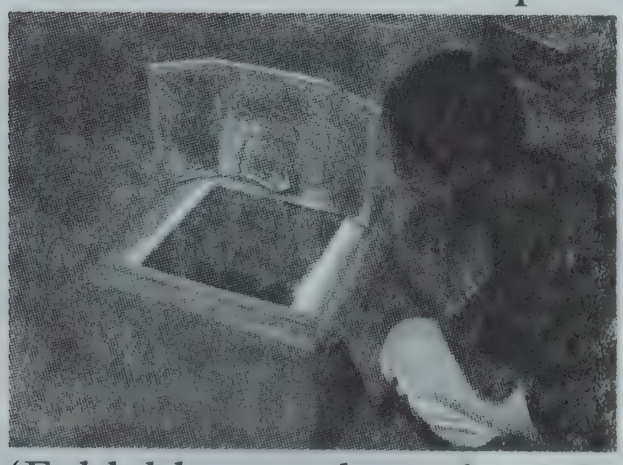
- Things done to prevent heat loss: Insulating with hay/straw, closing up of gaps, painting box black on the inner side.
- Why a black tiffin carrier? Because it absorbs heat.
- Things done to prevent radiation of heat: Double layer of glass, black inner box.

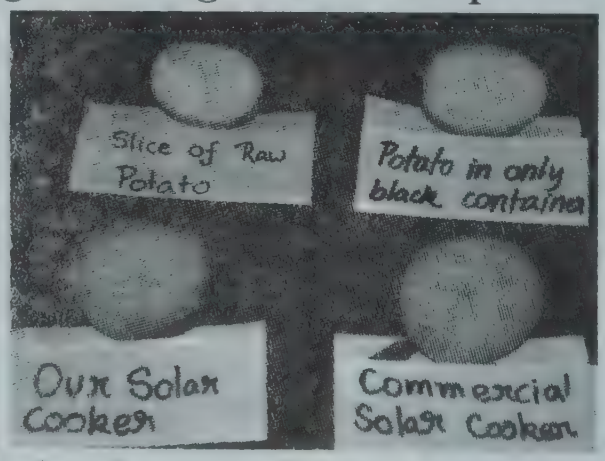
What to take into consideration when setting up:

- The sun is at a different height from the horizon every season.
- The sun is in various positions as it 'travels' from east to west.
- You need to adjust your solar box panel from time to time according to the position of the sun so that the maximum amount of light is allowed in.
- Food: Put the normal amount of food you would cook in the tiffin carrier, and leave for 3-5 hours depending on the season.

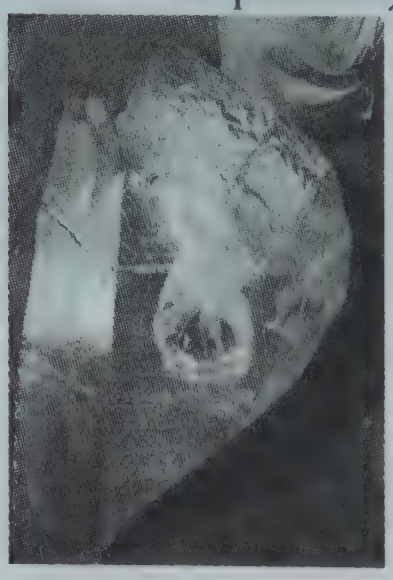
(by Shantonu Chatterjee, class 9)

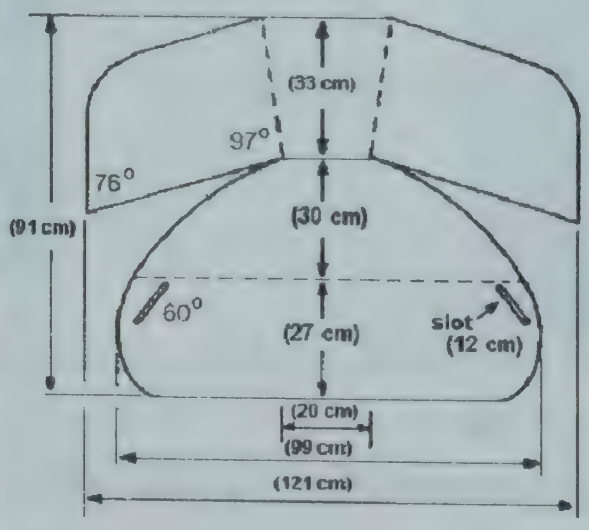
Comparing cooking time with potato





'Foldable panel type' might also be good choice in India





Lifestyle

Home-based Project

Let's look at the Seed Packet Project as one example of a home-based project. Though the background of this project was to actually find solutions to some 'problems' I had been facing, it ended up becoming a fun and interesting activity on the whole.

Activity flow

Have a discussion with children about problems that need solving

- Children have a lot of free time at home during their summer vacation
- There are many extra seeds that come out of our home garden
- I do not have time to clean the seeds by myself
- Children want to earn some pocket money

⬇

Make a decision/plan

We decided to make seed packets and sell them.

⬇

Planning for implementation of the chosen activity

⬇

Start the actual work (production of seed packets)
- Peel seeds out of the pods (cleaning through the seeds)
- Design and produce the seed packets
- Prepare instruction notes for each type of seed to be packaged

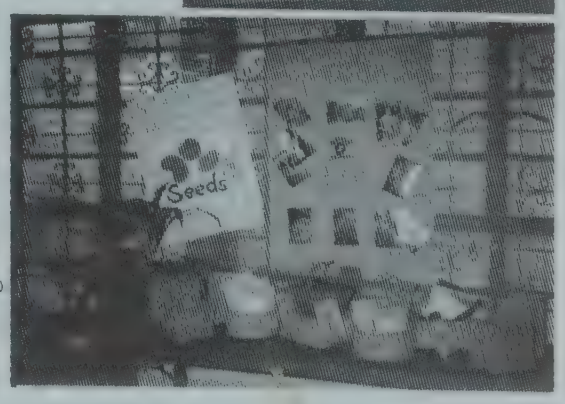
Keep a record of your activity-based learning process (using worksheets is a good idea)

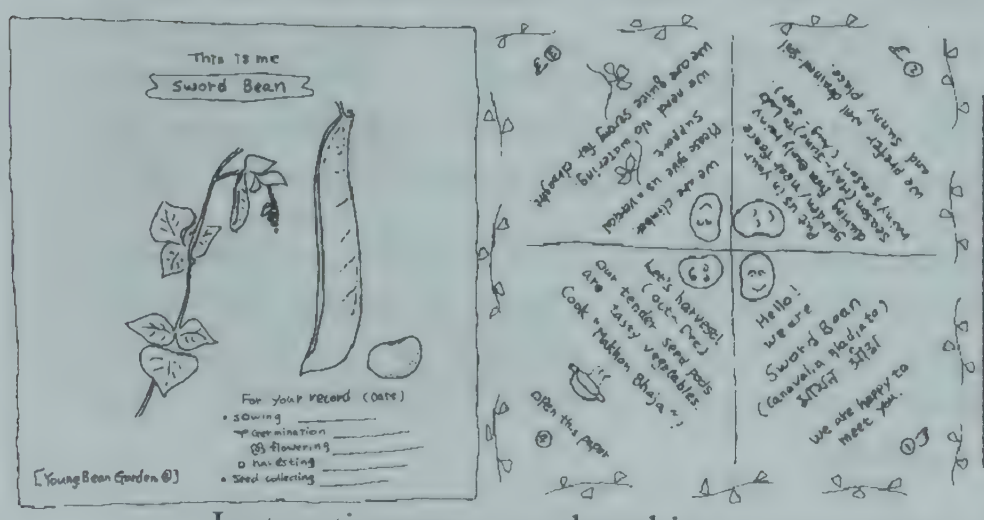
The 'seed packets' are ready!

Distribution and sales of seed packet
- make posters
- get feedback from different sources
- exchange information with other groups
- earn some pocket money

Evaluate the activity with an aim to make improvements

Questions we asked ourselves
- Was this project effective in solving our initial problem(s)?
- Do we want to do this project next season too?
- Shall we increase our seed varieties for next season?
- Are there any new questions regarding the seed packets?

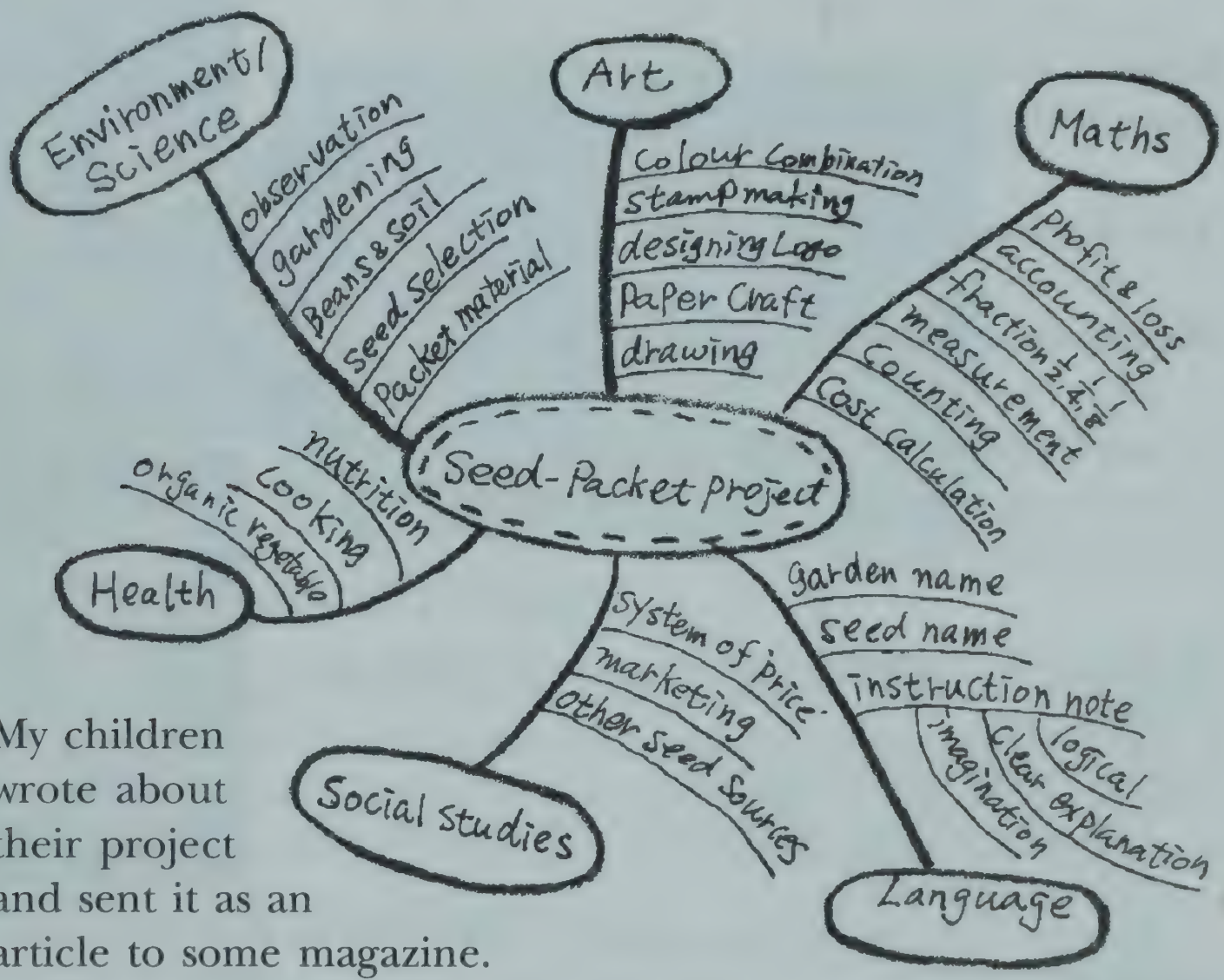




Instruction notes enclosed in the seed packets (Sword bean)

Selling seed packets in a Fair Trade shop, Kolkata

Through this kind of project, children come to learn many things and they get a chance to practise various skills too. Since this project was done during the children's summer holidays, I prepared some sheets for them as activity based learning (one of the work sheets is shown on p. 125). These can also be a part of our record on the 'project'.



My children wrote about their project and sent it as an article to some magazine.

'We started this project during our summer vacation (May-June). We had many bean seeds in our garden. We decided to sell them because we could not plant all the seeds. We could also earn some pocket money.

First, we decided our project's name, Young Bean Garden. We chose this name because we are young, and we use fresh, young beans for packing. Beans can be grown very easily and produce a big harvest. We also learned from our father that beans are good for soil. We grew two kinds of beans this season, winged bean and sword beans.

We design the seed packets with help from our mom. But we make the packets by ourselves. Sometimes it is very hard to make them. We made some mistakes in the beginning, but we still work everyday on Young Bean Garden. So far we've sold about 20 packets. We hope many people will buy our seeds.

- Shantonu, 9 and Manosi, 7, Chandernagore, India - '

(article appeared in *Skipping Stones*/Vo.13. no.5)

3.6.2k

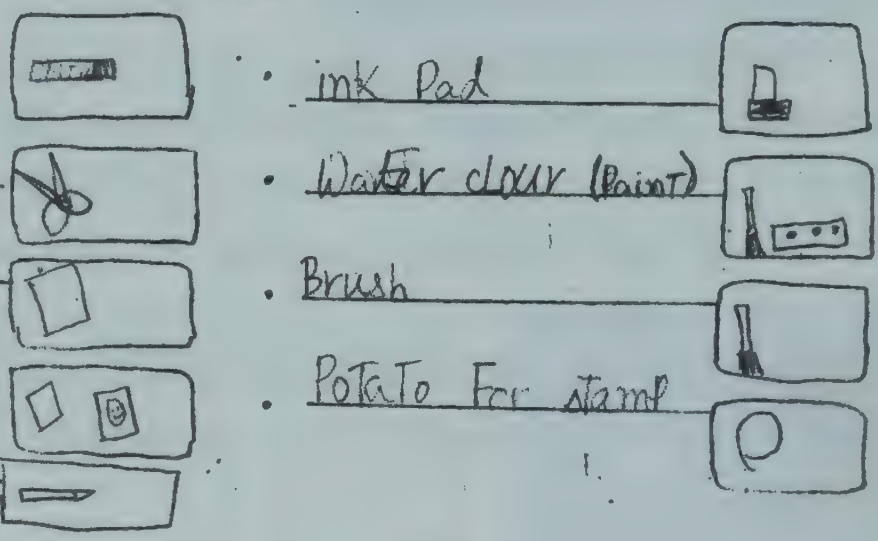
work sheet-1

name: Manosi Class II

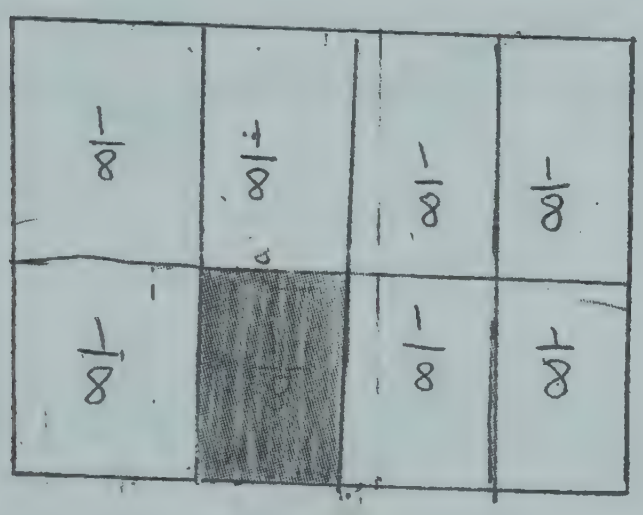
How to make: Paper Bag for seed Packing

☆ what we need (name + draw)

- glue
- scissors
- Paper
- Rubber for stamp
- Pen
- ink Pad
- Water colour (Paint)
- Brush
- Potato For stamp



☆ Preparation :
Cut 1 sheet of paper into 8 pieces



☞ Let's measure a full sheet of paper

Length 72cm Breadth 50cm

☞ How much does a full sheet cost ?
RS. 2

☞ put lines how did we divide into 8 pieces

☞ Put colour on a $\frac{1}{8}$ piece of paper

☞ calculate the size of a $\frac{1}{8}$ sheet of paper X

☞ measure the actual size of a $\frac{1}{8}$ sheet of paper X

☞ calculate the cost of a $\frac{1}{8}$ piece of paper

$\frac{1}{2}$ of RS 2 → RS 1

$\frac{1}{2}$ of RS 1 → 50 Paise

$\frac{1}{2}$ of 50ps → 25 Paise

(Work sheet 1 : filled up by Manosi, Class 2 student)

Home Library

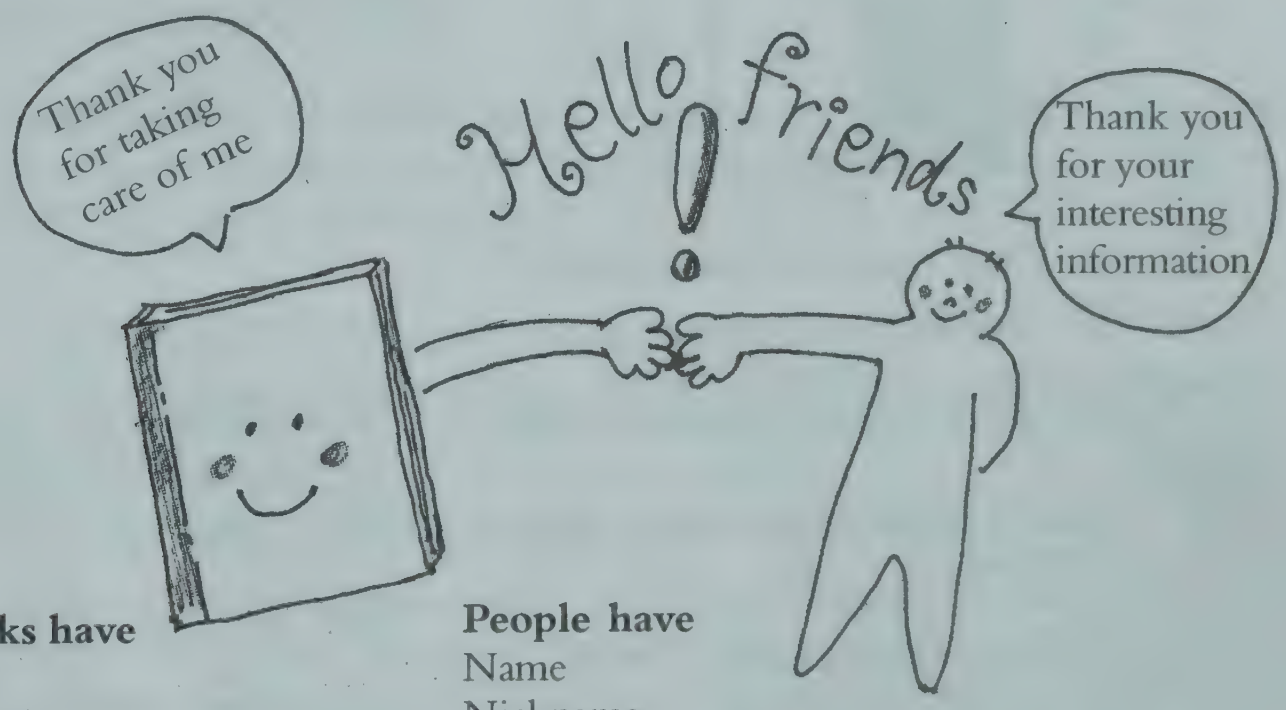
Though I initially helped set up our home-based library, *Ganapati,* most of the work done after that was all done by the children themselves.

Children in Class 2-3 are quite capable of entering Accession Numbers (an assigned serial number for books) and Book Titles in a register notebook; and children of Class 4-5 are able to start classifying books according to the subject. That's what we did at Ganapati.

My children enjoyed making the notice board to announce their library's opening, cleaning up the library space and hosting the users.

Sometimes we did paper craft, colouring on line drawings of medicinal plants, and story reading during the library hours. Since the library opened, the children have always continued to register all their new books – right up until they entered Classes 7 and 8 – though they had stopped opening Ganapati to the public well before that.

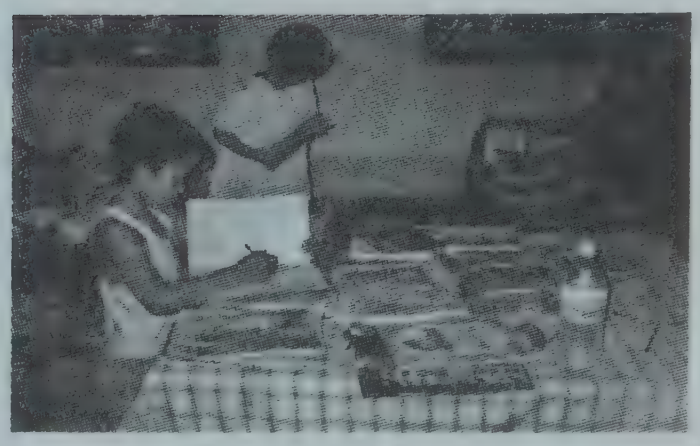
Books are our friends!



Books have
Title
Subtitle
Author
Publisher
Year of publication
ISBN No.
Pages

People have
Name
Nickname
Parent's name
School
Birthday
Birth certification No.
Figure (fat or thin)

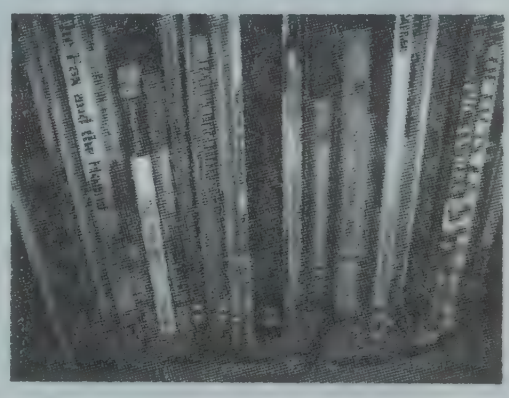
A simple bookeeping method


Registering books

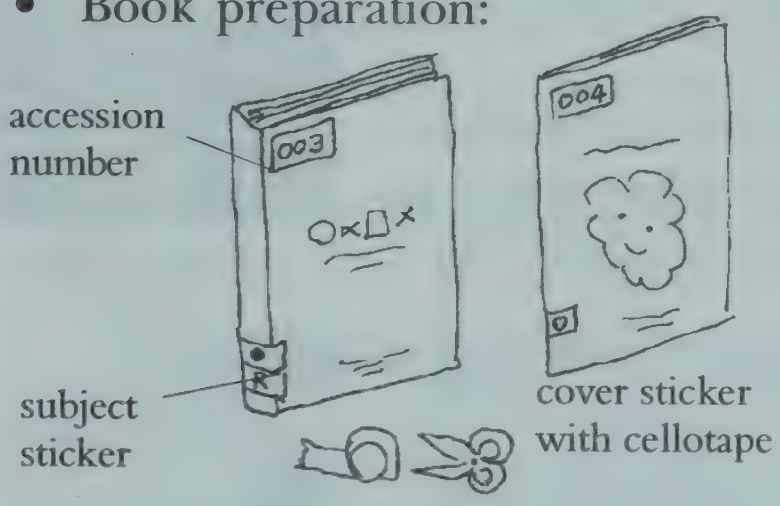
- Subject category
  (Subject – colour):
  Story books – Red
  Science & nature – Green
  Languages – Blue
  General knowledge – Yellow
  Art – Orange
  Reference books – Marked 'R' / not to be loaned

- Register note:

Acc. No.	Title	St	Sc	LG	Gk	At	'R'	Remarks
001		✓						
002			✓					
003			✓				✓	
004					✓			
:	:							

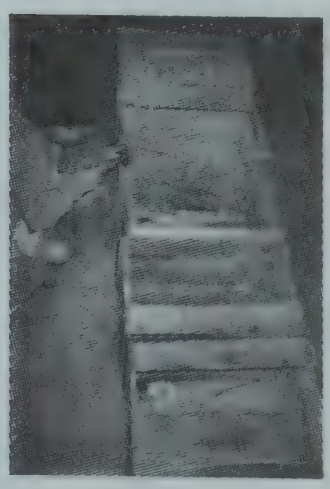


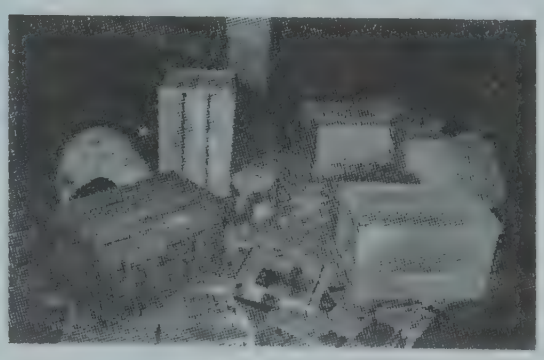
- Book preparation:



Book storage complete

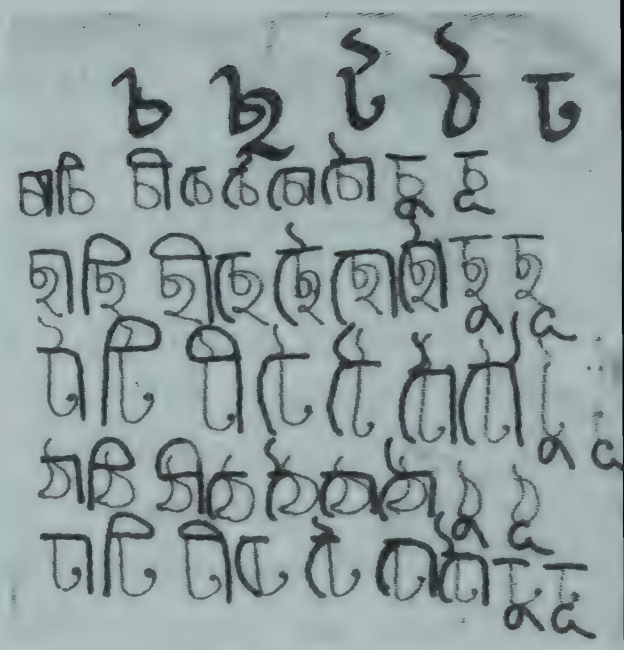
- Book storage :
  books kept in a shelf according to the accession number
- Other related activity: hand made, low cost bookshelves


Making smooth the excess nails


Painting box

Finished !

Language Learning

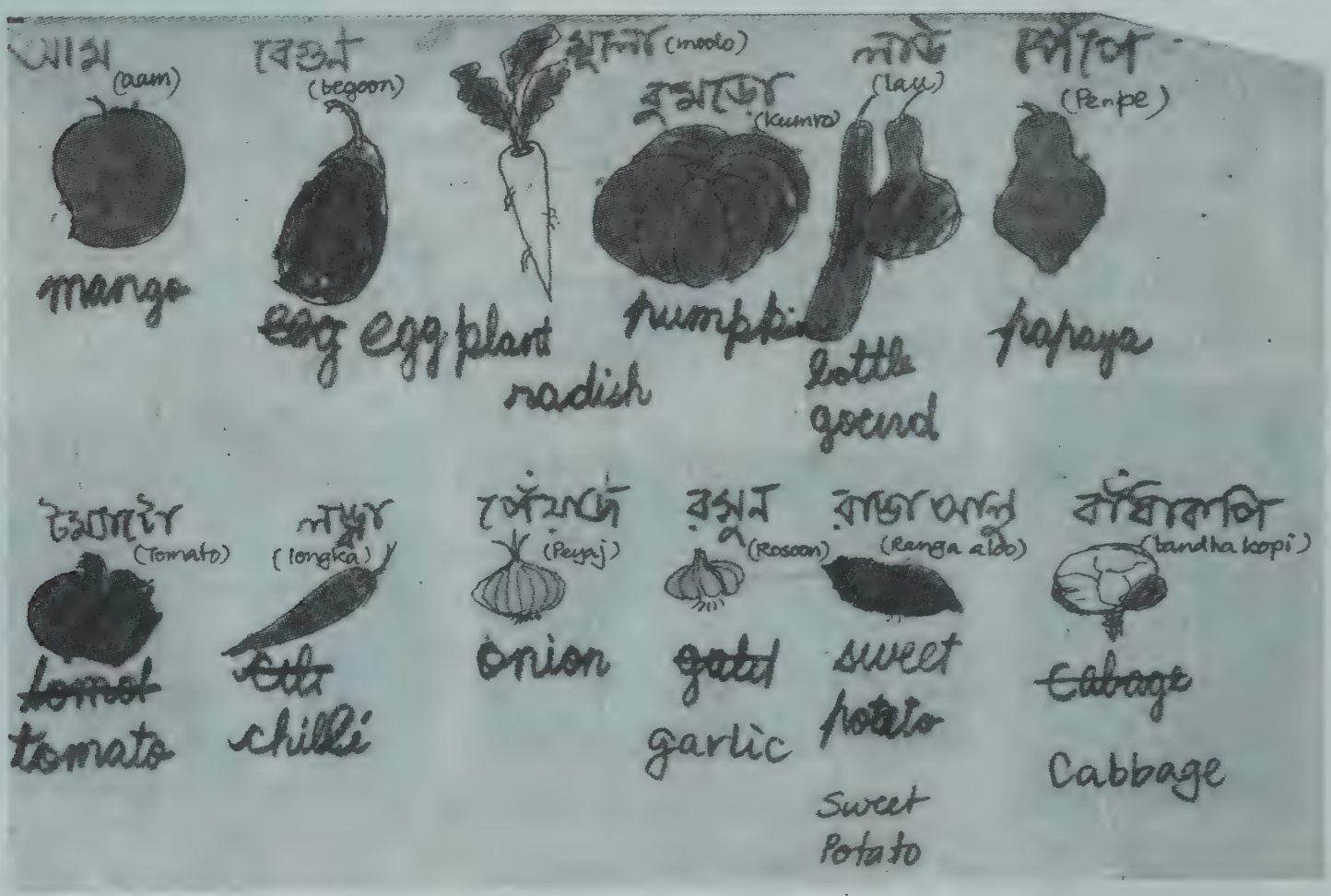


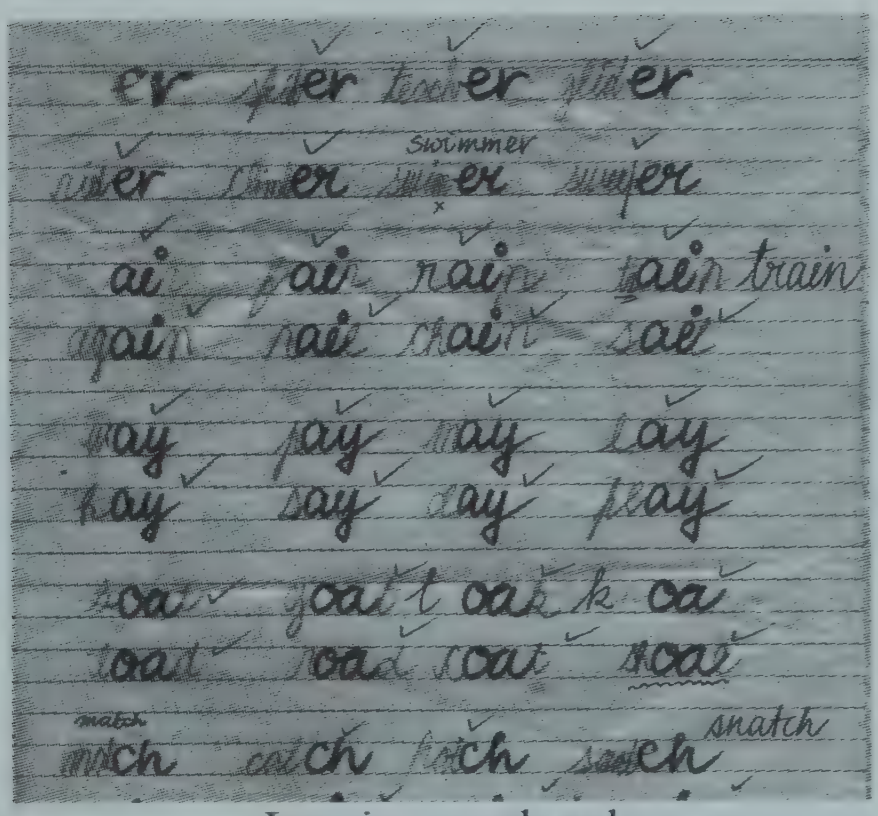
The beginning of learning Bengali letters

My husband played a vital role when our children started learning English and Bengali in their primary school Classes 1 and 2. He made various flashcards and taught them the Bengali letters by grouping them according to the shape of the letters, rather than in 'alphabetical' order. The children became independent in both English and Bengali by Classes 3 and 4. I taught them Japanese reading and writing only during the times they had a long school holiday. Though our children are able to communicate in Japanese without any problems, I did not manage to teach them the full concept of Japanese reading and writing systems, as this requires a lot of time – much more than English or Bengali.

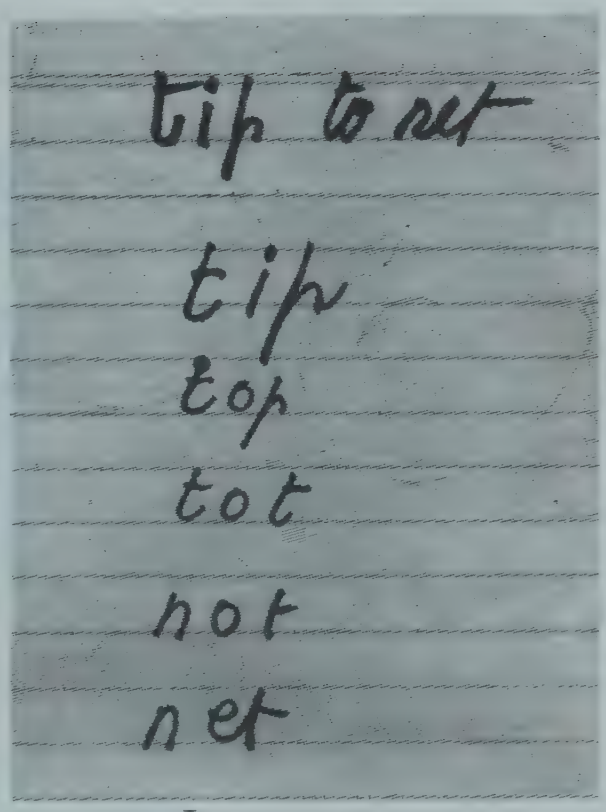
To increase their vocabulary, my husband always taught them words which were related to food and which were a part of their daily life.

Learning with flash cards





Learning sounds and spellings



Letter game to increase vocabulary

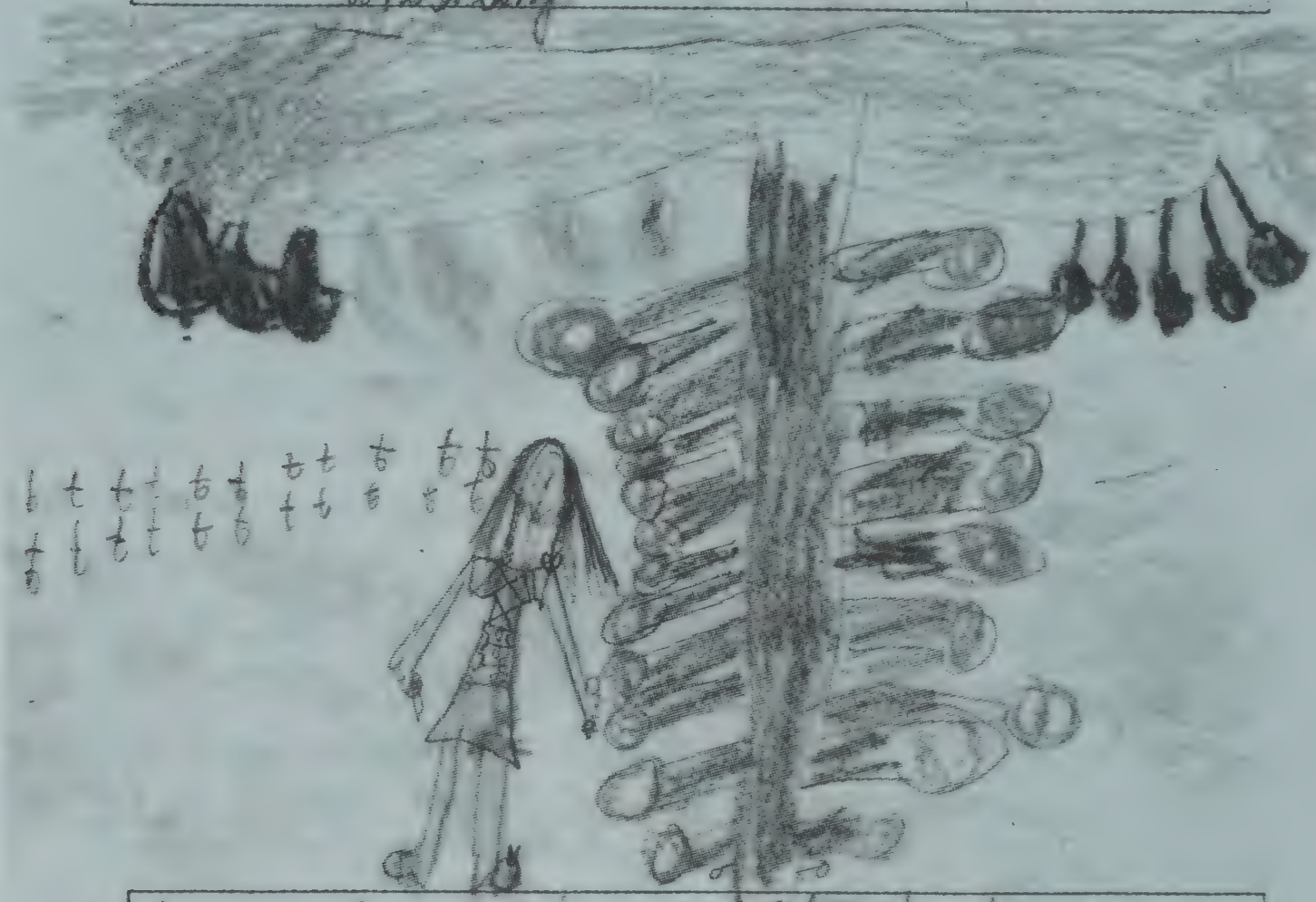
After the children had a good grasp of English, I started preparing "Discovery" and "Experience" sheets to be worked on during their long holidays. Using these sheets as their guide, the children wrote down just about anything – about what they had found or discovered, or anything they had been doing over the holiday period.

I asked the children to fill-up the sheet, telling them it was a 'task,' and I gave them a deadline for submission. As long as they met this deadline, they were free to use their holiday time as they chose.

I also asked my husband to look at and check their writing so that he would know what was going on with the children while he was away from home. I didn't give the sheets to them everyday, only once a week. while they were on their summer holidays. I felt that it was plenty of work for children of their age to practise writing. You can try these kinds of worksheets with your children – I know you will enjoy when your own children share their wonderful discoveries and special experiences with you in this way.

◇ EXPERIENCE RECORD ◇

I can do now .. I have done ..	Date 26.5.11
whistling	Name Manosi



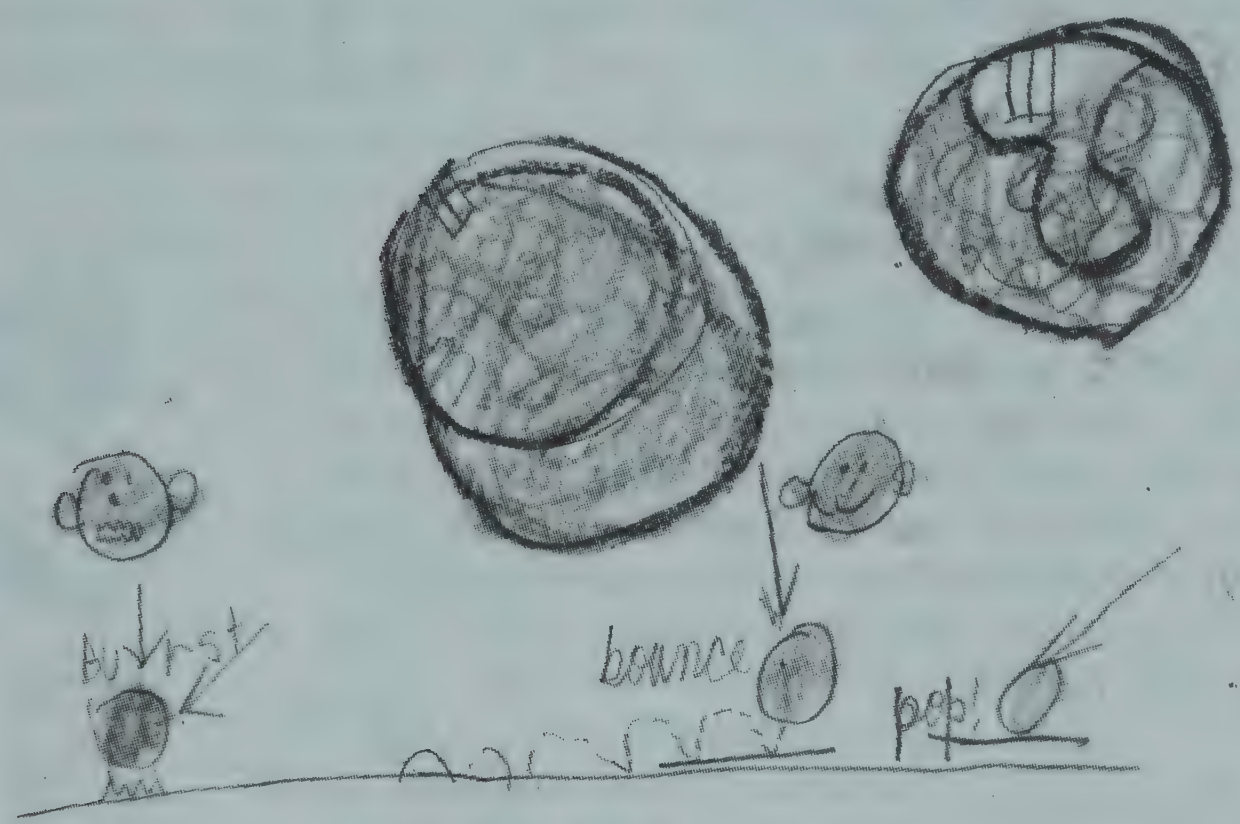
I can do whistle. I like to do whistle. when I was five years old I could not do whistle. but now I can do whistle. it is very good to do whistle. When I study I don't do whistle.

'I can whistle. I like to whistle.
When I am five years old I could not
whistle, but now I can whistle. I is very
good to whistle. When I study I don't whistle.'

('Whistling' by Manosi – age 6 / 26.05.1999)

☆ DISCOVERY RECORD ☆

I Found it ...	Date 26.5.99
That bubbles bounce	Name Shantonu



I discovered that bubbles bounce.
If they fall straight then it bounces.
If it falls down horizontally it bursts.
Sometimes they are colorful.

'I discovered that bubbles bounce.
If they fall straight then it bounces.
If it falls down horizontally it bursts.
Sometimes they are colourful.

('That bubbles bounce' by Shantonu – age 9 / 26.5.1999)

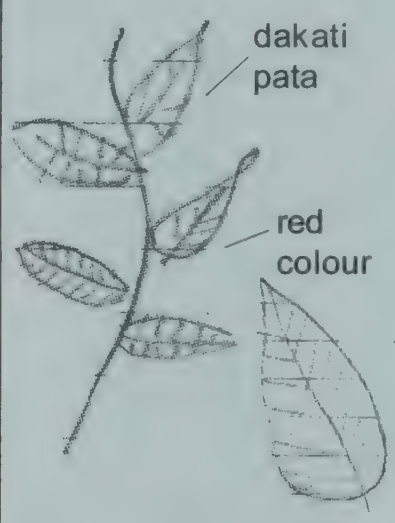
Connecting with Your Surroundings

Gathering local knowledge

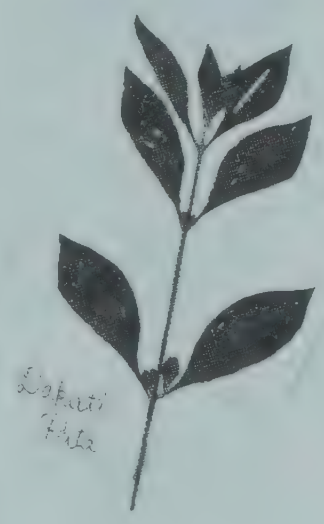
When children play outside the neighbourhood, they often get useful knowledge through playmates and elderly members of the community. My children picked up different kinds of information about the medicinal uses of plants or fish found in a pond, etc. Since I was also interested in such information, I asked the children to write down whatever they heard, and make pressings of them each time to add to their herbarium collections.

My Friend and the Dakati Pata leaf

Today (16.04.2001 / Monday) my friend Pussy fell down and got a cut. We were playing lock and key (in Bengali 'tala chabi'). Then suddenly Pussy fell down and cut her leg. It was a little cut but we had to go all the way across the field for *dakati* leaf. But we could not find *dakati pata*. Then we went and went till we were at my house. Then my friend said, "can you get some ice?" I told my mother, then my mother brought two ices. We put it on Pussy's leg. And we went to Jhimli didi's house and asked if we could get the *dakati* leaf. Uncle asked for what we need it. Mamoni told what happened then Uncle said alright but actually it was at the side of the house. Mamoni climbed the gate and took the *dakati pata*. We went and found a place to sit, so we sat there and put it on her leg.

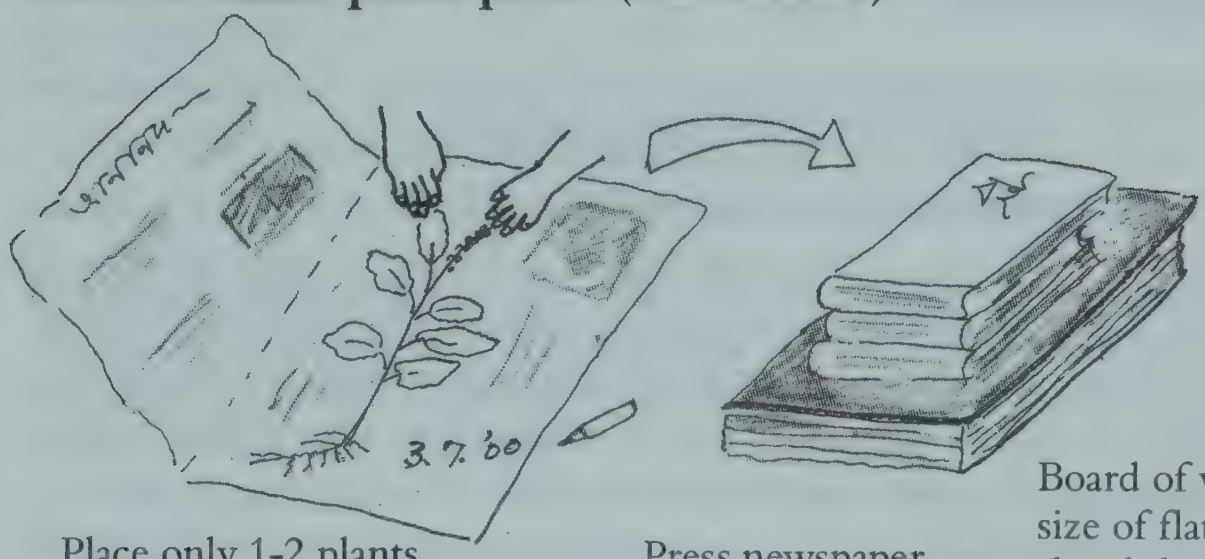


by Manosi (class 3)



After seeing the plant press made by Manosi, her father explained to her that the real, so-called Dakati pata usually refers to 'Mexican Daisy' (*Tridax procumbens*). Sometimes local people might use the same name for a different plant, depending on the locality and availability. These kinds of findings are also interesting to take note of with children.

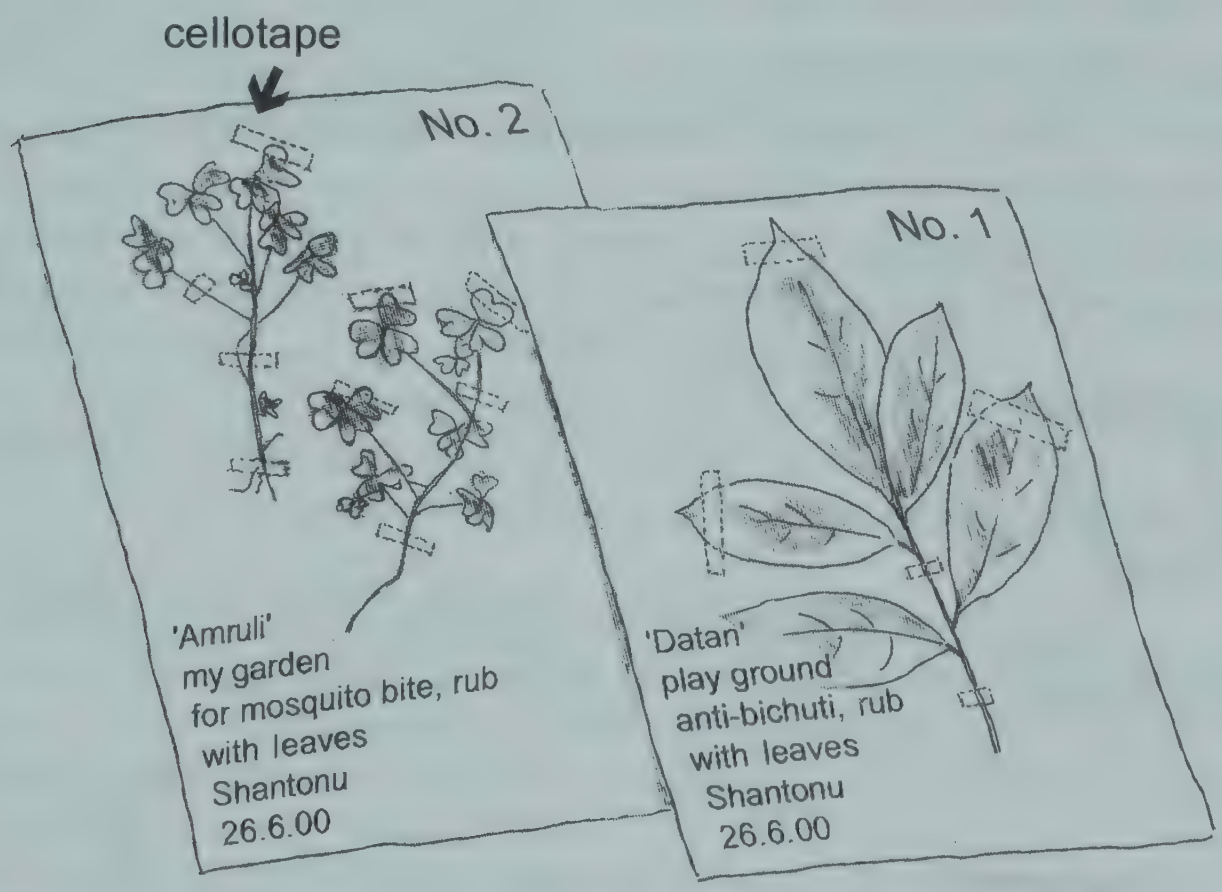
How to make plant press (herbarium)



Place only 1-2 plants between old news paper which absorb plants' moisture. Write down the collecting date for your memory.

Press newspaper sheets by a pile of books or stone. It can take 2-3 weeks for plant samples to dry out.

Board of wide enough size of flat sheets (eg. sketch book)



Small discovery trips

Summer vacations and other long school holidays can sometimes be rather tough for parents managing children, especially when the children are still at the lower and middle primary school level. When we did not have any specific holiday trip planned, and also when my husband was not at home during these long vacations, I often organized small cycling or walking excursions with my children – just around our own locality. We called these our "discovery trips." We visited mango orchards, big ponds, a brick factory, rice fields, etc.; places that were all located on the other side of the railway line.

We also did a mapping of our station road. As you probably know, there is a lot of variety among the small shops that line the main roads of small towns in India. Although we often use this main road leading to the station, we were not completely sure what kinds of shops actually exist along it, sometimes it just seems a big hodge-podge. So to satisfy my curiosities, my son (then in Class IV) joined me in the mapping process.

How to do mapping:
You need :

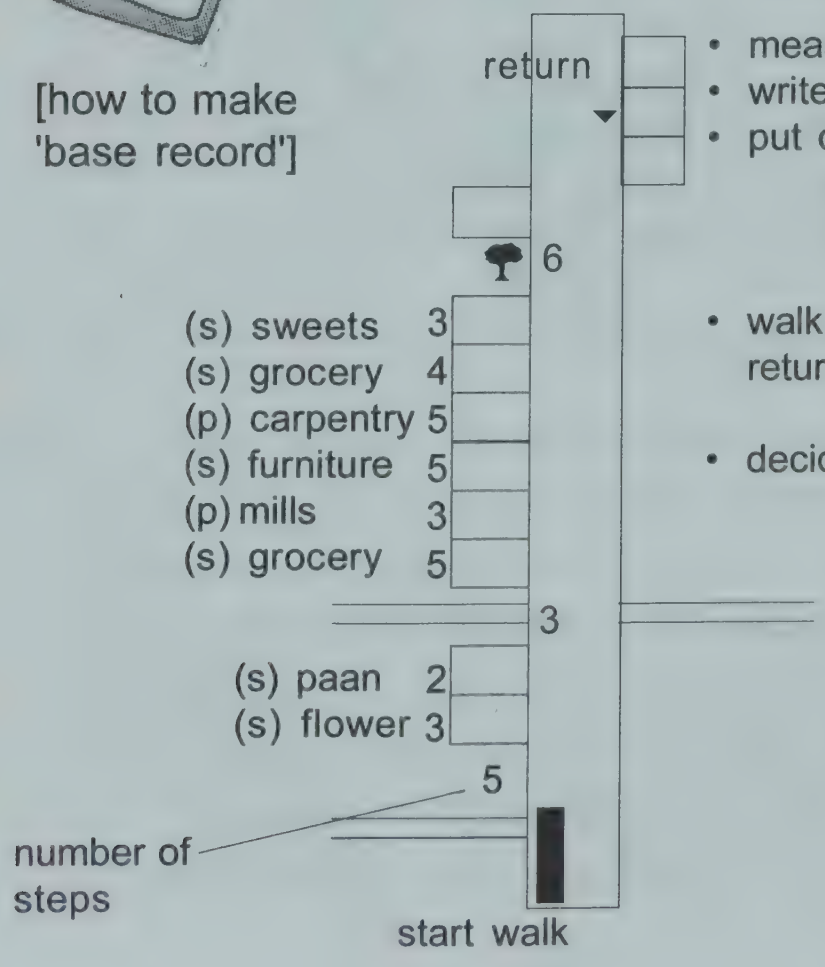
[how to make 'base record']

pencil

rubber

feet

cap & hat as protection from sun



- measure distance by footsteps
- write down shop category
- put different symbols for
  - (s) – shop
  - (p) – producing unit
- walk one side first & keep record, then return for other side recording.
- decide each member's role in a group
  - measure by step
  - describe the shop
  - keep record

Our report on Mankundu station road mapping done in November 2001.

Mankundu Station Road

(by Green Sprout, Chandernagore)

Mankundu Station is located about 35 km northwest of Howrah Station, on the way to Bandel in Hooghly District. If you get down at the station – you will see the typical scene of a busy 'station road' found in every ordinary small town in West Bengal.

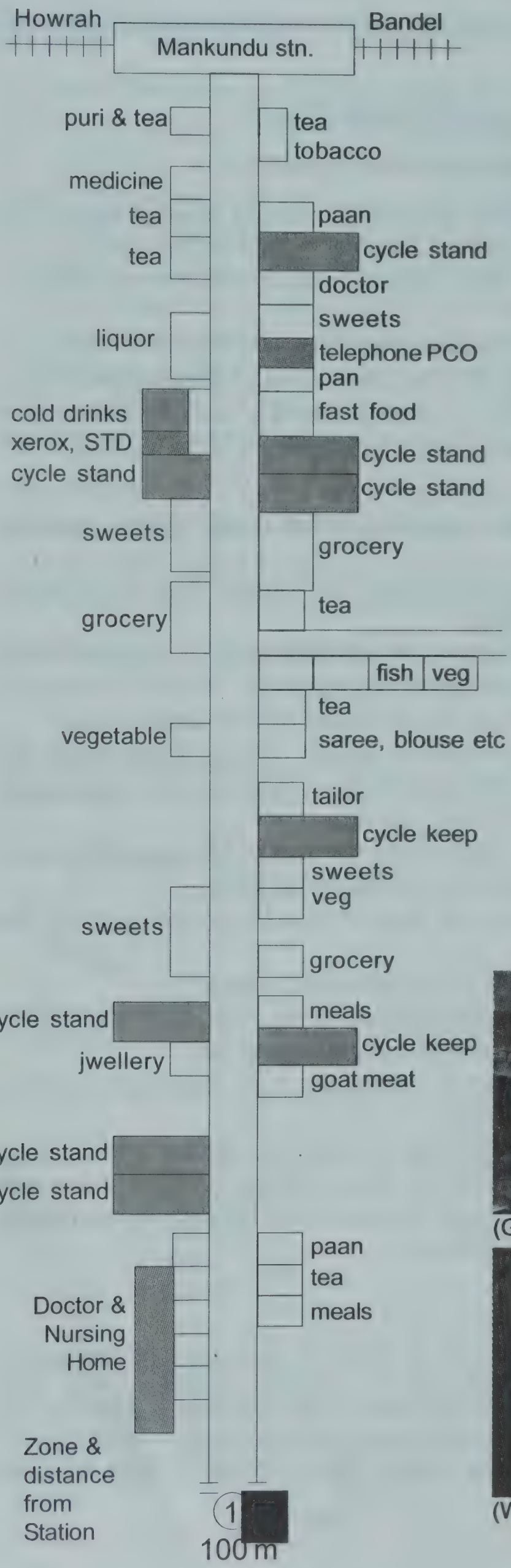
My son (Class IV) and I made a road map of Mankundu Station in November 2001. We wanted to find out what kind of shops are actually located along there. People often say that if you go for marketing on this road you can get everything you need – and we wanted to check if that statement was true.

Through this mapping exercise, we discovered many things (see the following page):

- Shops are stretched till 400-450m from the station. This is an easily walkable distance for shopping.
- Most of the shops have a door size of 3-5 steps (1.5 - 2.5 m); but there are also shops with doors that are only 2 steps.
- All kinds of shops and services are available on this station road.
- We did this mapping in the morning around 11 am. Most shops are closed for a break in the afternoon (between 1-4 pm) and re-open again in the evening.
- We found several small shops that we never knew were there, including a small-scale factory for polishing bangles.
- Cycle stands are located near the station (Zone 1 on the map) for the convenience of commuters.
- A telephone booth (STD, ISD) is located in each zone.
- There are many production units located along this road: carpenters, glass cutting, sweet makers, wheat mills, tailoring, etc.
- Medicine shops are located in Zones 1, 2, 4. Several doctors' chambers are also located here.
- It is hard to figure out what shops are missing. We could not find a shop selling tools and miscellaneous for pujas. Good quality sarees and clothes are also not available here. We supposed for such things people go to other shopping places in town.

Additional Note

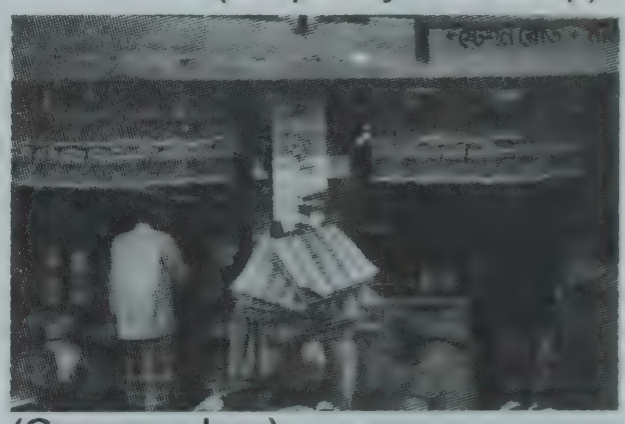
Mankundu Station Road was widened in 2003. At that time, several small, unorganised shops were relocated and a shopping compound was also built . . . Some shops were renovated and display windows were installed on the front side. From around 2004, PCO email facilities began to be seen as additions to the existing STD shops. A billboard for 'Digital Camera Printing' recently appeared around 2006-2007.



(Household items)

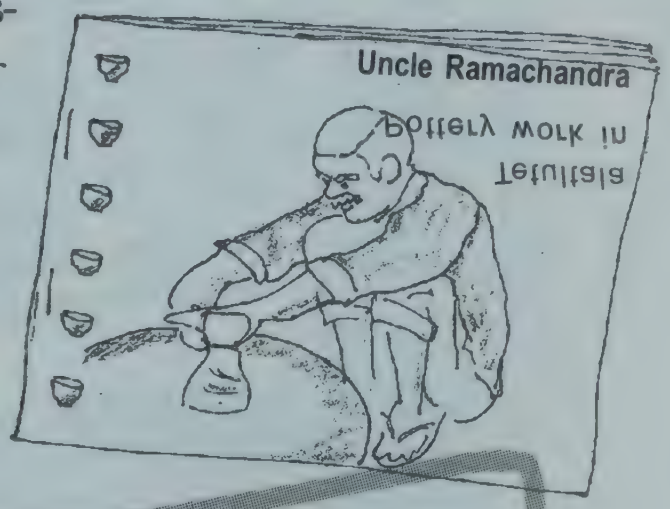
(Barber)

(Carpentry workshop)

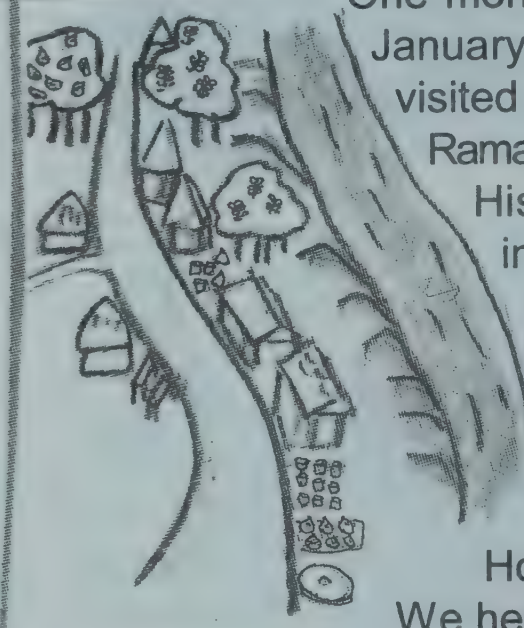

(Grocery shop)

(Wrist bangle polisher)

Visiting local artisans with your children and talking to them can also be a pleasant and interesting discovery trip. We visited a local potter who makes *bhar* (disposal earthen cups) and other earthen items for our locality. I think sharing documentation from these kinds of day excursions can be very intriguing so I share them here:

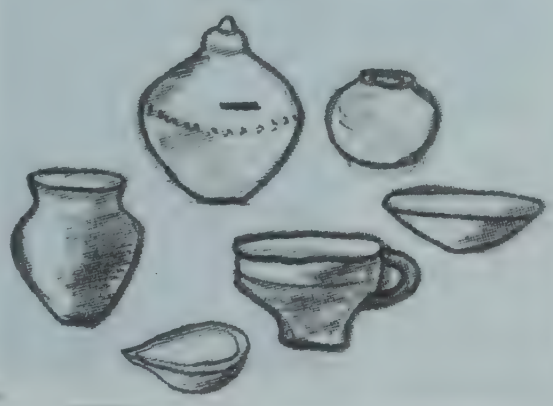


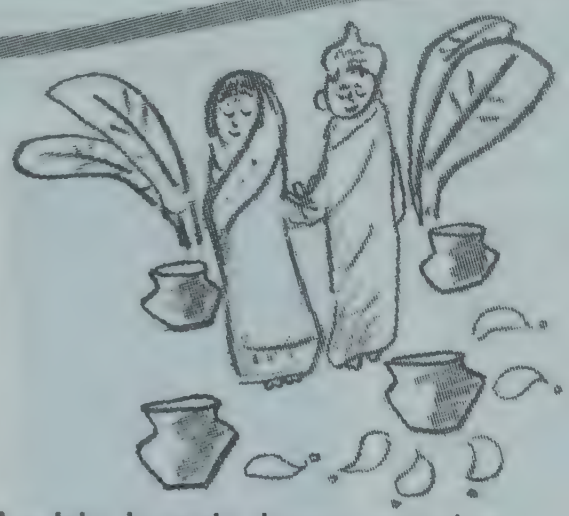
Uncle Ramachandra is a potter. His father and grandfather were also potters. Aunty (his wife) says with her smiling face that he is born from clay'.



One morning in January, we visited Uncle Ramachandra. His house in Tetultala is located beside the River Hooghly. We heard that there are about 50 pottery houses in this area.

Uncle Ramachandra turns the pottery wheel round and round. He creates several items for *puja* one by one. He is busy now because Saraswati Puja is coming soon.



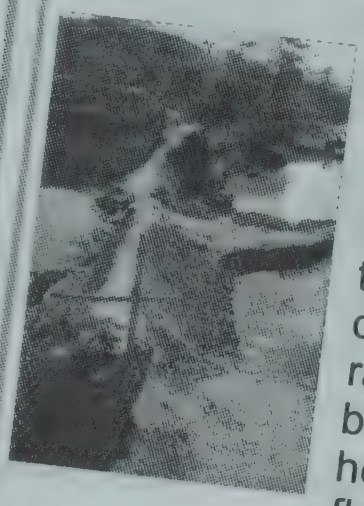


As his hands keep moving busily, he says, "we can't offer puja with plastic items."For marriage ceremonies four special earthen pots are always necessary. People cannot marry without these.

Tea cups are made by Uncles' son-in-law and son. Uncle's 11 year old grandson also helps after school. Though cups made by the grandson are sometimes uneven in shape, he is also a good potter.

1500-2000 cups are made by them everyday. Cups need to be dried under the sun for one day. Potters who are using 'electric pottery wheels' can produce double this amount.

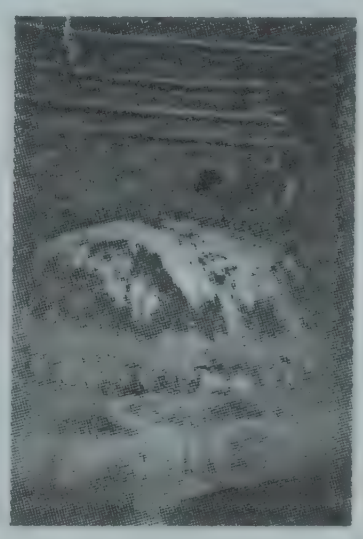
Mud is brought from the Ganga-River beside their house. The river looks eroded heavily. It is not possible to do pottery during the rainy season because houses get flooded.

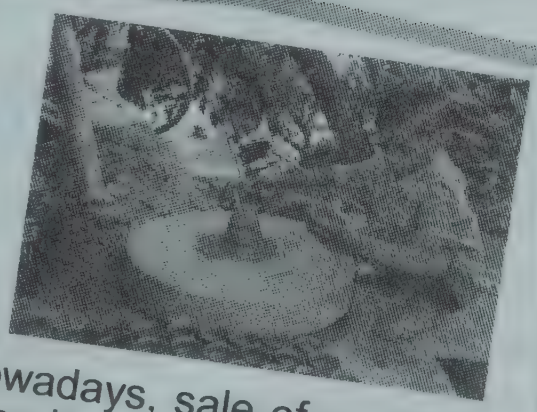


When about 8000 cups are ready, they put them in fire. Every 3-4 days, the potter's oven is set up. Uncle's son and grandson are responsible for setting up the kiln.

In the mountain shaped small kiln (oven), 100 kg cow dung cakes, 40 kg broken coal, 30 kg mango firewood, 10 kg straw is used as fuel. The kiln is again covered with mud.

Total fuel cost is Rs 130-140 for one kiln. 8000 cups are sold at Rs 560. If the kiln is fired 5 times in a month, they atleast can earn Rs 2200 monthly.

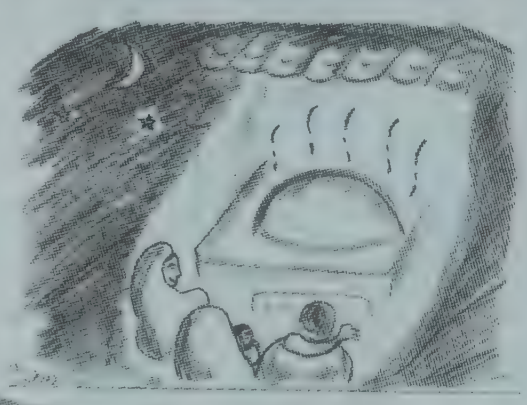




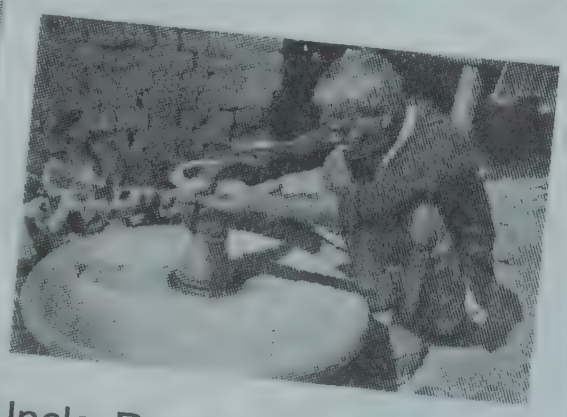
Nowadays, sale of earthen cups is going down slowly. They say it might be the effect of plastic cups. 5 years ago 1000 cups sold at Rs. 30. Till last year the price of 1000 cups was Rs. 60. But after last year's flood, the price rose to Rs 70.

Now plastic cups are cheaper than mud cups. I remember a shop keeper saying, "People buy cheaper things...". We worry about that.

The fire for the Kiln is started in the evening and kept going till morning. The oven becomes redder and redder... It looks beautiful and cosy on a winter's night but we can imagine how hard this is in summer.



His neighbours say, "our Tetultala has been like this since we were born." We feel happy when we drink tea in earthen cups. Plastic cups can never give us this same feeling!"



Uncle Ramachandran even today is working on a pottery wheel. Whenever we see earthen cups we remember Uncle and his family.

Written by
Satoko, Shantonu, Manosi Chatterjee

Thanks to
Mr. Ramachandra Pandi and his family (Tetultala Chandernagore)
Mr. Shantonu Nath (Puja material shop, Chandernagore)

Alternative Recipes

I think one of the subjects missing in formal education here in India is Home Science. If I draw upon my experience of growing up in Japan, I recall that Home Economics and Science is introduced as a school subject which is taught to both girls and boys so that they acquire the basic skills of cooking, sewing, and building simple furniture, along with an introduction to consumer education.

This subject is not offered here so I tried to teach basic sewing and cooking skills to my children at home. I would have to say that my attempts were not really successful, partly because my children were too young at the time and partly because I am not very good at Home Science myself. In any case, my children are somehow now able to do some simple stitching so they can mend small tears in their pants, etc.

Stitching, washing doll's clothes, cooking – perhaps they were too young to start

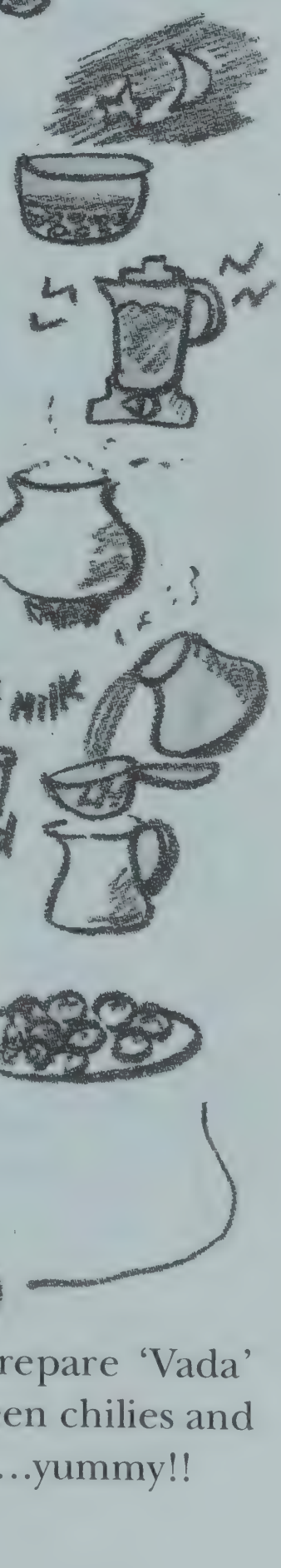
Later when the children reached Classs 5 and 7, we tried making simple snacks and drinks that we called our 'Alternative Recipes'. They were quite good – and I would like to share some of them here with you now!

Soya beans contain high protein.

Let's make a tasty & nutritious drink from Soya beans !

Soya milk

Method of Preparation
Qty. 1 litre



1. Clean 1 cup (200 cc) of soya beans and wash them well. Soak the soya beans overnight.
2. Take water in the same proportion as the soaked soya beans in a mixer. Put the soaked soya beans in it and grind it into a fine paste.
3. Shift the paste into a pot and add water in the proportion of 1.5 times the paste.

   (eg. For 4 cups of paste, add 6 cups of water)
4. Boil on low fire. Simmer until the mixture swells up the second time.

   (Be careful, not to over flow !)
5. Strain it through muslin or sieve.

   The resulting liquid is 'Soya Milk'. It contains 80% protein.

   Add brown sugar for a sweet taste. Cinnamon or Cardamom also can be added according to taste.

The strained soya residues can be used to prepare 'Vada' by mixing this with besan/flour, minced onions, green chilies and spices. Take small scoops of it and fry. Serve hot....yummy!!

Roselle (*Hibiscus sabdariffa*) is easy to grow in a homegarden (p. 73).

The Roselle fruit has more calcium than most fruits and contains Vitamin C and some iron.

Roselle Jam

Mateirlas: Roselle calyx (petal) 1 kg
Water 1.5 L
Sugar 1.5-2 kg (same volume as paste of Roselle)

1. Remove Roselle calyx and wash them well.
2. Boil Roselle calyx with water.
3. After it becomes soft, strain water and mash calyx through a strainer.
4. Put back the mashed calyx in the pot and mix it well with the strained water. (This becomes about 2 kg)
5. Take the mashed calyx mixture (as in 4) and add sugar equal in volume. Boil it again on low heat while stirring constantly.
   Remove the froth from the surface.
6. Do a 'Plate Test' to make sure the jam is ready.
   If the drop of jam taken on a plate does not flow when the plate is tilted, then the jam is ready. The other way to know is by watching bubbles. When the small boiling bubbles become larger and the sound changes from p!...p!... to 'pop..pop..' you should know that your jam is ready.
7. Put the jam into a glass jar and allow it to cool.
   Restore the cap tightly and preserve.
   Serve with bread, chapati or curd.

During summer, cool kulfis are really rejuvenating. You can have kulfis of different flavours. Try to avoid synthetic flavours and use different seasonal fruits to make delicious kulfis. Here is an idea developed by a 12 year old boy.

Lychee Kulfi

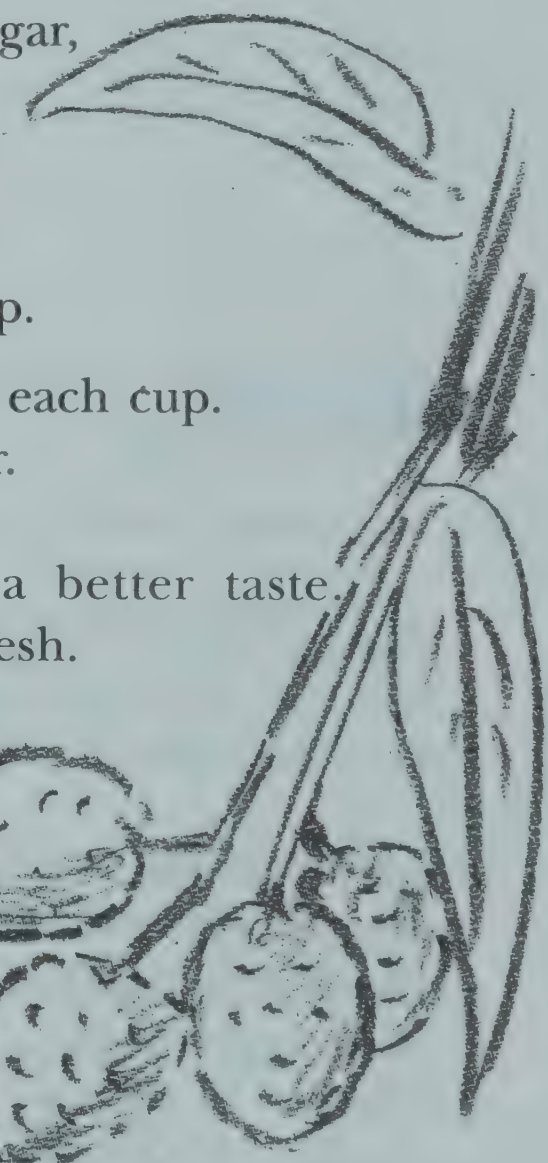
Materials (for 4 small cups / 100-150cc per cup)

Milk 500 cc, Sugar 3 tsp, Dry Raisin 1 tbsp ,
Lychee fruits 8-9, Cardamom 2-3 cloves

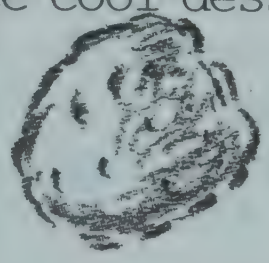
Method of preparation

1. Take milk in a pot and add sugar, cardamom and raisin. Boil on low flame for 5-6 minutes.
2. Take 4 small cups and add the flesh of two lychees in each cup.
3. Pour the milk (1) equally into each cup. Cool and keep in deep freezer.

Tips: Adding less sugar offers a better taste.
You can also use coconut flesh.



Have a nice cool dessert !



References:

For compiling PART II, I referred to :

- *Profile of SELECTED VEGETABLES for home garden in CAMBODIA* : Trainers' training manual, Home garden series No. 2 (Ardhendu S. CHATTERJEE, TRC/JVC-Cambodia, 1997)

- Selection from Basbhumi: Booklets for activity-based environmental education (ENRE project/DRCSC)
  - Booklet 1: *Creative Lesson Plan on Trees* (2002)
  - Booklet 2: *Creative Lesson Plan on Insects & Worms* (2003)
  - Booklet 3: *Creative Lesson Plan on Water* (2003)
  - Booklet 4: *Creative Lesson Plan on Medicinal Plants* (2003)
  - Booklet 5: *Creative Lesson Plan on Birds* (2004)
  - Booklet 7: *Creative Lesson Plan on Waste* (2005)
  - Booklet 8: *Creative Lesson Plan on Vegetables* (2006)
  - Booklet 9: *Creative Lesson Plan on Local Market* (2008)

PART III
(Appendix)

Teatime!

– Green Sprout presents *Children's Magazine* –

The appendix has been included here for you to have a look at over tea or hot cocoa, or a refreshment of your choice. It isn't really meant to be 'the end' of the book, but rather something to flip through when you need a refresher and some light inspiration!

Green Sprout Loves Teatime

Issues of Children's Magazine were prepared during 2002-2003 when my children were age 9 and 11.

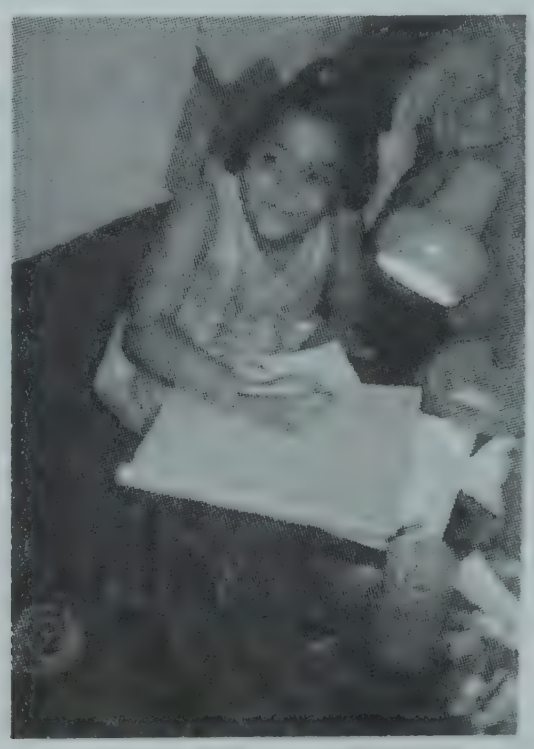
Among the various topics, which generally include natural resources and other such subjects, there is a special issue on Auroville. Auroville is located in southern India in the state of Tamil Nadu. Both my children were born there. The special issue was written when we briefly returned to visit the community after a long absence.

Green Sprout thanks friends who contributed articles and answered interviews for this magazine.

Manosi, who was the proud editor of Children's Magazine, is now a teenager of 15 years old. Whenever she reads over these magazines, she actually bursts into laughter saying, "I was so small!! Did I really write such stupid things?! Embarrassing . . . but still it's funny!"

Please take some time to have a look at the following pages from our magazine over your favourite drink or a cool bit of kulfi. Everybody loves teatime!

Hi! I am 'editor' Manosi of this Children's Magazine. Both myself and my elder brother, Shantonu, had great fun preparing each issue... I hope you will enjoy the Children's Magazine series prepared by Green Sprout.



(*Children's Magazine - Trees* / August 2002, Cover)

Save The Earth!

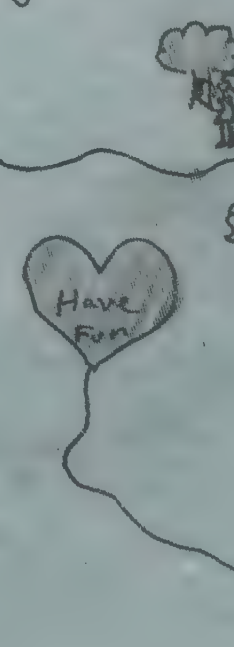
It is suffering from

POLLUTION!

CONTENTS

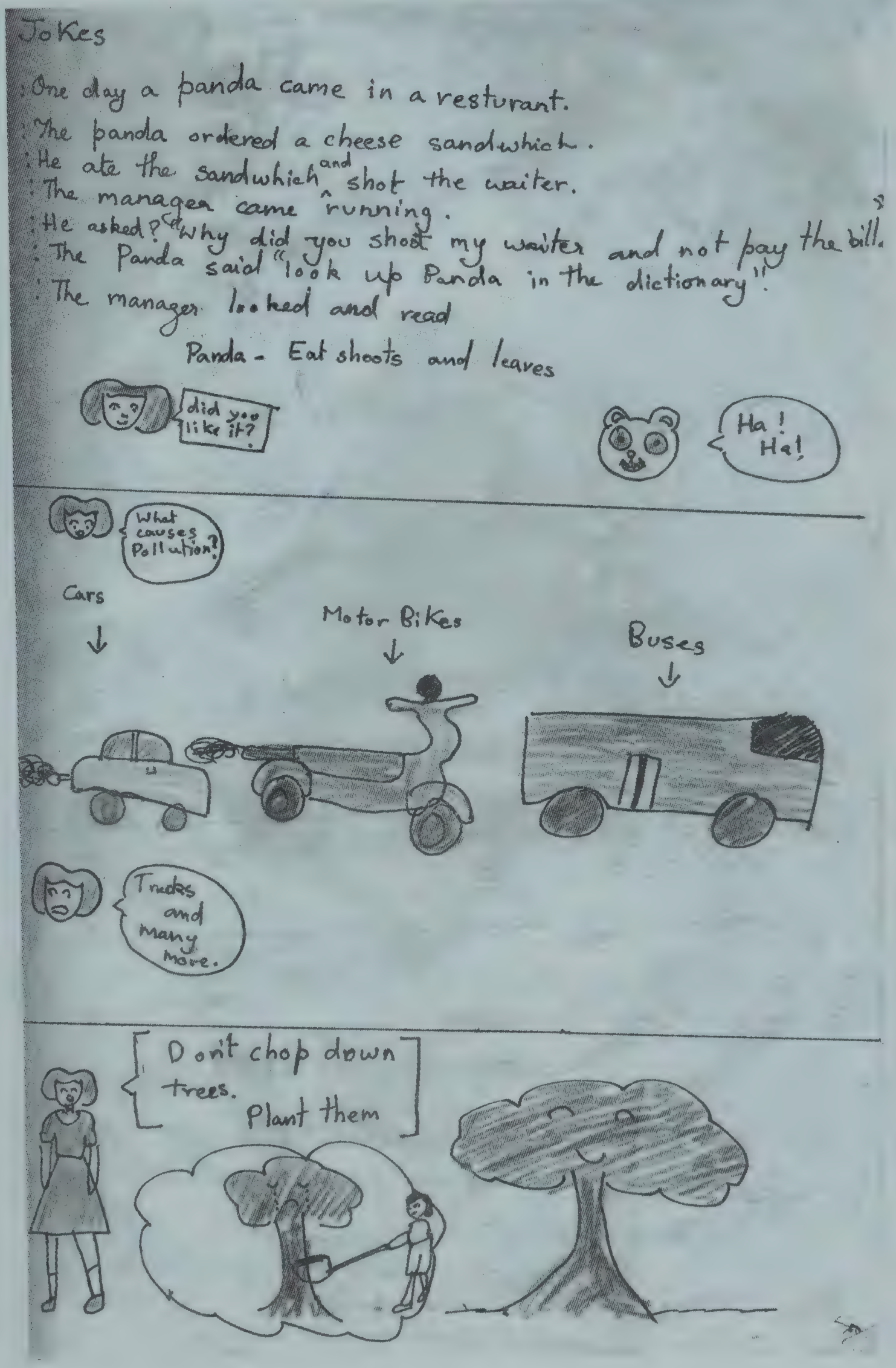
Pg 2-	Jokes for you (Tree) What causes pollution? Don't cut down trees!	Page 2 Pg Pg
Pg 3	FUTURE OF TREES. A Poem of trees.	Page 3 Pg
Pg 4	Garbage near trees	Pg 4
Pg 5	Craft with trees and getting pocket money	Pg 5
Pg 6	INTERVIEW "What is your favourite Tree"?	Page

Publisher - GREEN SPROUT
Editor - Manosi Chatterjee
Illustrator - Manosi Chatterjee
& Writer



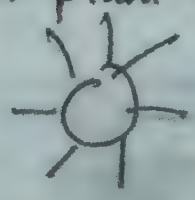
ADULTS CAN READ TOO!

(*Children's Magazine - Trees* / August 2002, Content)


Jokes
One day a panda came in a resturant.
The panda ordered a cheese sandwhich.
He ate the sandwhich and shot the waiter.
The managea came running.
He asked? "Why did you shoot my waiter and not pay the bill.
The Panda said "look up Panda in the dictionary".
The manager looked and read
Panda - Eat shoots and leaves
did you like it?
Ha! Ha!
What causes Pollution?
Cars
Motor Bikes
Buses
Trucks and many more.
Don't chop down trees. Plant them

(*Children's Magazine - Trees* / August 2002, Page 1)

if you chop down trees and never plant any the future will be like THIS!



And you have to live ~~like~~ Without Fresh air!

Those Who get born when there is no tree. They won't even know what is a tree.

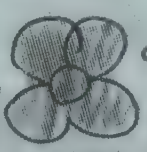
A Poem

The Trees are here and there all scattered everywhere,
They give us fresh to breathe.

DONT CHOP DOWN TREES

PLEASE PLANT THEM.

We guild them with all our heart please dont chop them

Those who  are born in the next century won't even know what is a

TREE!

3

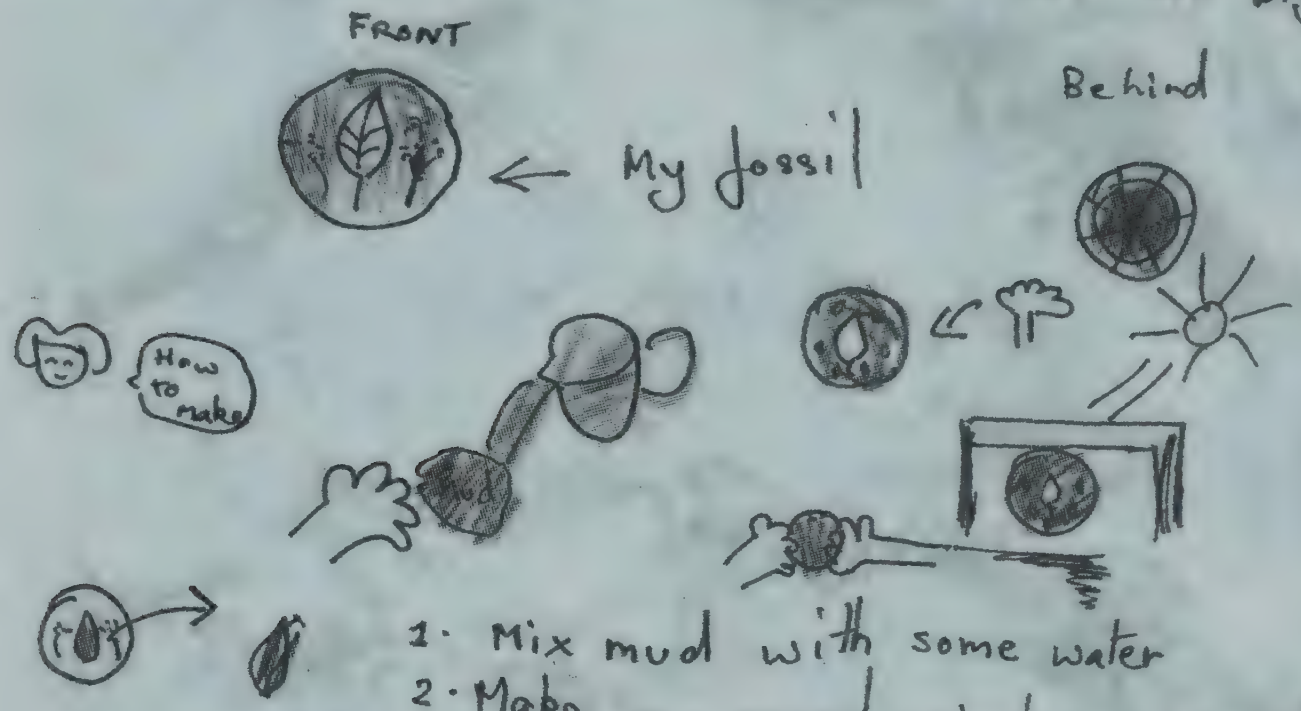
I like going on vacations. don't you?
Well going vacations like in Puri
There are Seas. aren't there?
Well there are garbage everywhere like this
empty
Clean up garbage will you!
use Me
Wow
Please don't throw garbage near trees

(*Children's Magazine - Trees* / August 2002, Page 3)

CRAFT

LEAF FOSSIL -

Things you need - Mud, water & leaf (any kind of leaf but not too big)

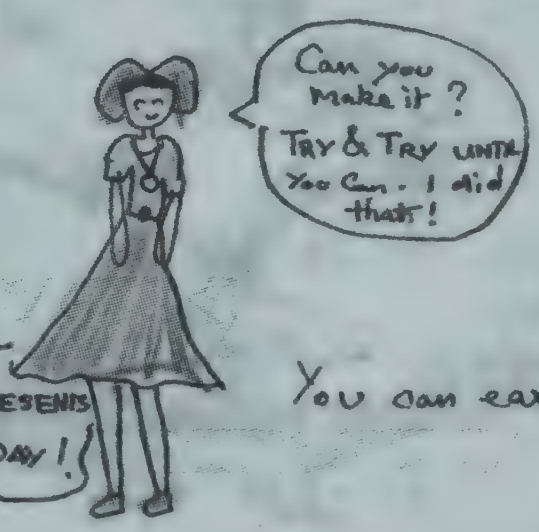


1. Mix mud with some water
2. Make a round circle or any shape
3. ~~Make it dry Far~~
3. Put any leaf on it
4. Put it in a shady Place for (1 hr) or 2 hrs
5. Don't put in sunlight or it may crack
6. When it is dried up take off the leaf
7. Then colour it

OR You can keep it for decoration or paper wheight or necklace.

Special

GOOD GIFT FOR PRESENTS AND MOTHERS DAY!



AND

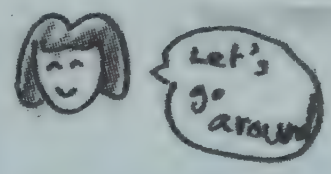
You can Sell it also!

You can earn Pocket Money

5

(*Children's Magazine - Trees* / August 2002, Page 4)

INTERVIEW on trees.



Riko Chatterjee - I like Bahunia tree

I like it because the flower is beautiful and I like leaf's shape; Very easy to grow.

Shantanu Chatterjee - I like Banyan tree
I like it because it gives cool shade and it is fun to climb.

Manosi Chatterjee - Mango tree
I like it because I like mangoes and the leaves are beautiful

Sipra Das - I like Krishna Chura
I like it because its flowers are beautiful and it gives nice shade.

Shankar Bhattacharya - I like Bariana
I like it because it is good for health.

Rita Gomesh - I like mango
I like it because mango is my favourite fruit and the smell is good

Malubika Sahu - Mast tree (Debdaru)
I like it since it looks good

- Shubhasis Banerjee Kamini
  I like it because it has good flowers and scent.
- Suparna Ghosh - Mango
  I like it because mango is good and it gives shade
- Shukla Ghosh - Mango
  I like it because mango is my favorite fruit

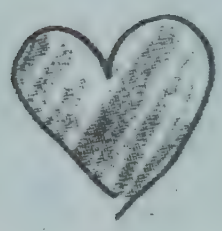
Conclusion

Mango is the most popular and favourite tree

(*Children's Magazine - Trees* / August 2002, Page 5)

Watch out for the next edition of Children's Magazine
Thank you for reading

Have fun next month



Bye

Love

Manosi Chatterjee

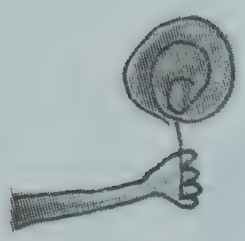
Barasat Gate, Garer Dhar West,
Chandenagore - 712136 West-Bengal.
6834685

We welcome your suggestion and articles
You will see your name on the book

Thank you

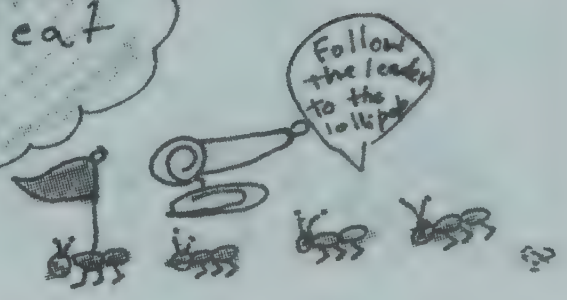
(*Children's Magazine - Trees* / August 2002, Page 6)

(*Children's Magazine - Insects* / September 2002, Cover)



Save your Lollipop the ants will eat them up!

Content



Jokes for you ..... By. SHANTONU | 1

Poem of bugs ..... By. Manosi... | 1

Amazing ants ..... By Manosi | 2

Games ① (Find out the seven differences) & ② (Find the insect in the sentences) ..... | 4

Special Prize! ↑ Manosi & Shantonu

For first 3 correct entries. An ORIGINAL GREEN SPROUT Bag!

Put your answer in the entry Box..

Notice: Both 1&2's answers must be written

Insect Proverbs ..... Manosi ... | 3

Craft ..... Manosi .. | 3

INTERVIEW . Services Center Staff | 5

Message Bag → Green Sprout | 6

Publisher - Green Sprout

Editor - Manosi Chatterjee

Illustrator - Manosi Chatterjee

Writer - Shantonu and Manosi Chatterjee

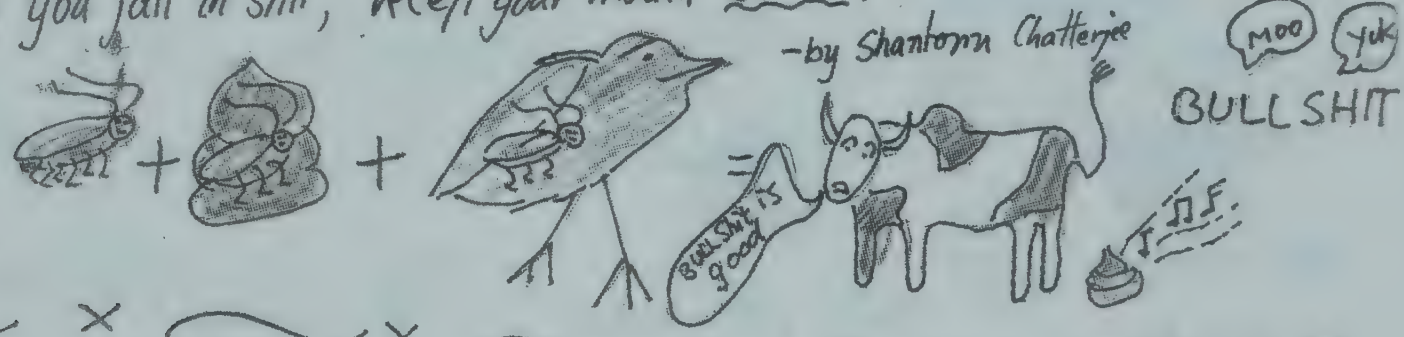
(*Children's Magazine - Insects* / September 2002, Content)

Jokes

One day a cricket was flying home. Suddenly it began to snow. The poor cricket froze and fell to the ground. After sometime a bull came and shit on it. The CRICKE felt warm and started to sing. A bird heard it singing and ate it up.

Moral

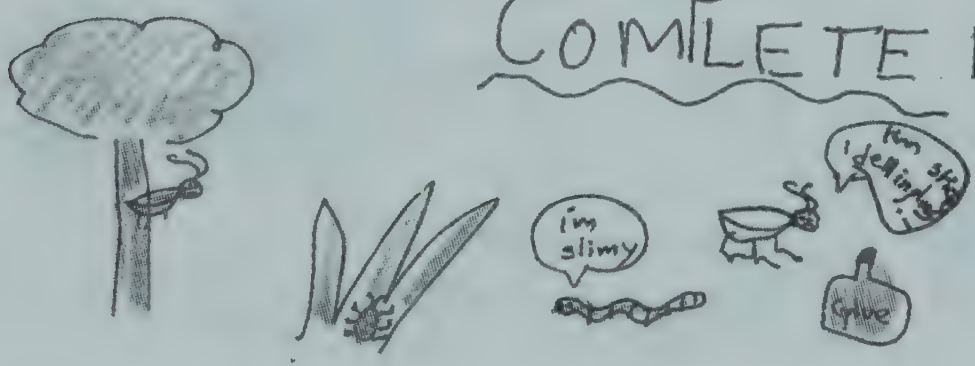
- Anyone who puts you in shit may not necessarily be an enemy.
- Anyone who takes you out of shit may not necessarily be a friend.
- If you fall in shit, keep your mouth SHUT!



A Poem of bugs

You can see bugs here and there.
There are bugs in trees and bugs in leaves
slimy bugs sticky bugs all in the trees,
leaves & flowerws. leeches suck blood away
but if there no bugs at all. Then our
life wouldn't be

COMPLETE !

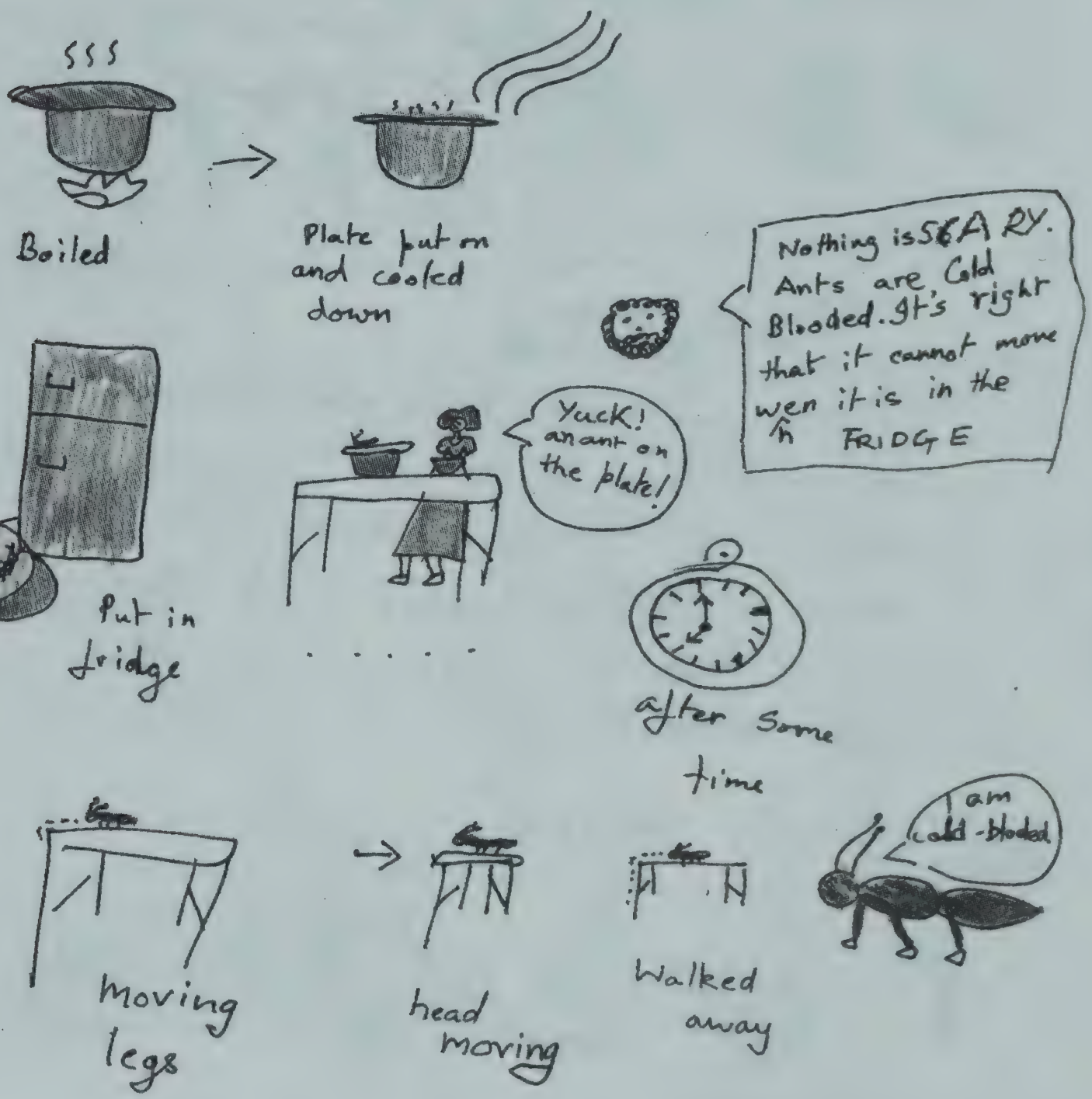


By Manosi Chatterjee

✡ The Amazing Ant (TAA)

One morning my mother took out a bottle of milk. There was a "dead" black ant on the cover. My mother told us that the ant might have got in when she had put the milk in the fridge. I took it off the cover and kept it on the table. I started eating my breakfast. Suddenly TAA came alive!! He started by moving his legs feebly..... his head started moving..... his antennae started wiggling. Finally TAA went away as if nothing had HAPPENED!! SCARY AND AMAZING!

By - Manosi Chatterjee


SSS
Boiled
Plate put on and cooled down
Nothing is SCARY. Ants are Cold Blooded. It's right that it cannot move wen it is in the FRIDGE
Yuck! an ant on the plate!
Put in fridge
after Some time
I am cold-blooded
Moving legs
head moving
Walked away

(*Children's Magazine - Insects* / September 2002, Page 2)

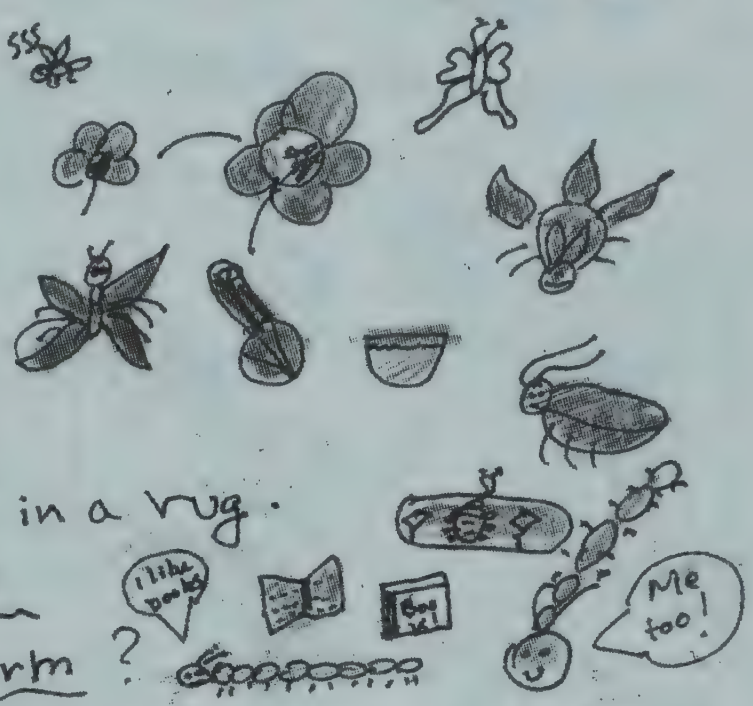
INSECT PROVERBS

Which one are you?

As angry as a Wasp
As busy as a Bee
As blind as a Beetle
As Joyful as a FLY
As merry as a Cricket

As nimble as a bee
As playful as a butterfly
As snug as a bug in a rug.
As brisk as a butterfly

and are you a book worm ?



Craft

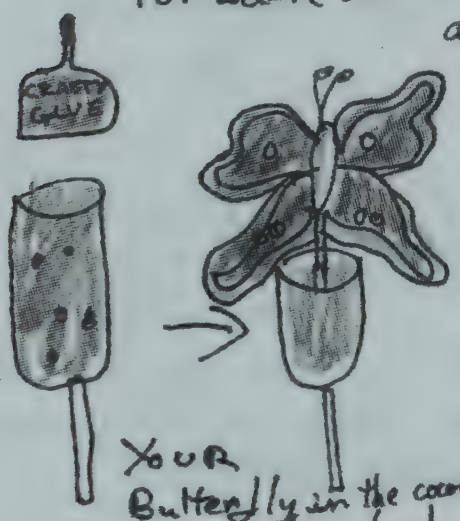
A butterfly out of the cocoon.

Things you need : • Toilet Paper tube or waste boxes • ice-CREAM pop stick or tongue depressor • Heavy paper • Stapler • Crayons and markers • Scissors and glue

how to Make –

First take the Tube or the waste box

For waste box – Take the waste box and cut it into a paper like piece then roll it a bit and then staple it. Your tube is made



Markers then colour the Tube and then put black spots. Your cocoon is made

Then with the heavy paper draw the Butterfly and then stick it on the stick but before that colour the butterfly with crayons. and

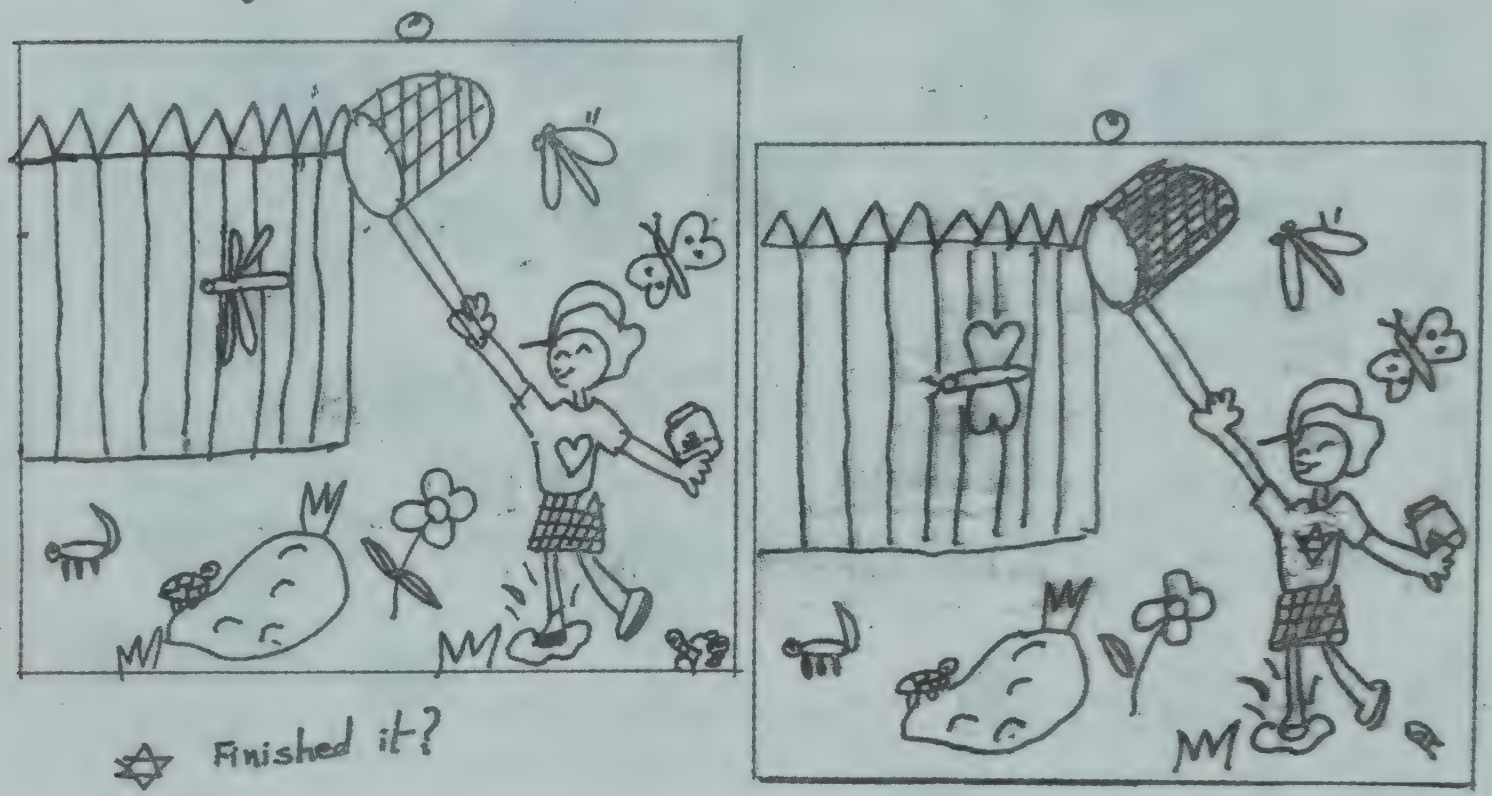
Your Butterfly in the cocoon is finished

GAMES

① seven

Find out the differences in this picture below

(Answer in next issue) good luck! in your mission.

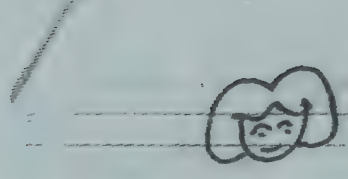


Finished it?

② Find the insects in the sentences. There may be a few words in between! (answers in next issue)

(1) My mother made chicken curry.
(2) Moss doesn't grow in Quito.
(3) The giant ate the man.
(4) The cow gave red dung after eating beet. Poor helpless cow!
(5) The cock approached me with cautiousness.
(6) They cater food from beside that pillar.
(7) I was caught spray-painting the school walls.
(8) I dropped the salt on the mouse.

- by Shantonu Chatterjee



INTERVIEW

What is your favourite insect?

Manosi Chatterjee - Beetle

Reason - I like it because it is strong & hard working.

Suparna Bose - Butterfly.

Reason - Because it is beautiful & colourful

Maloy Mukherjee. - Ant

Reason - Because I find them to be very organizined.

Pratim Chakraboti - Honey Bee.

Reason - It cause pollination and therefore helps in plant propagation It also collects honey which we can drink. It is a very tasty food.

Anirban Chandhury - Honey Bee.

Reason - They give us honey.

Partha Dutta - Butterfly.

Reason - Looks nice does't bite friendly insect not harmful.

Somjita Mukherjee - Grass hopper

Reason - Looks good the colour is also nice. It is not HarmFuL.

Manab Paul - Butterfly

Reason - Because it is very Colourful and Soft Silk also produced.

Subroto kundu - Honey Bee.

Reason - They do Pollination & produce Honey & wax for us

Ardhendu Sekhar Chatterjee - Dragonfly.

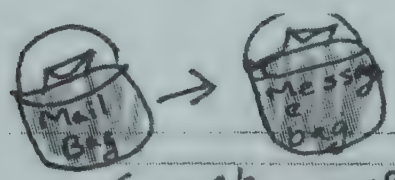
Reason - I like it because it is beautiful and its a friend of the farmers. It eats harmful insects. It has many bright colours.

Vikash - Ant

Reason - I like to watch their movement. They are very intelligent

5

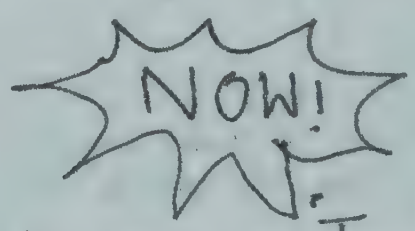
(*Children's Magazine - Insects* / September 2002, Page 5)



Green sprout message bag

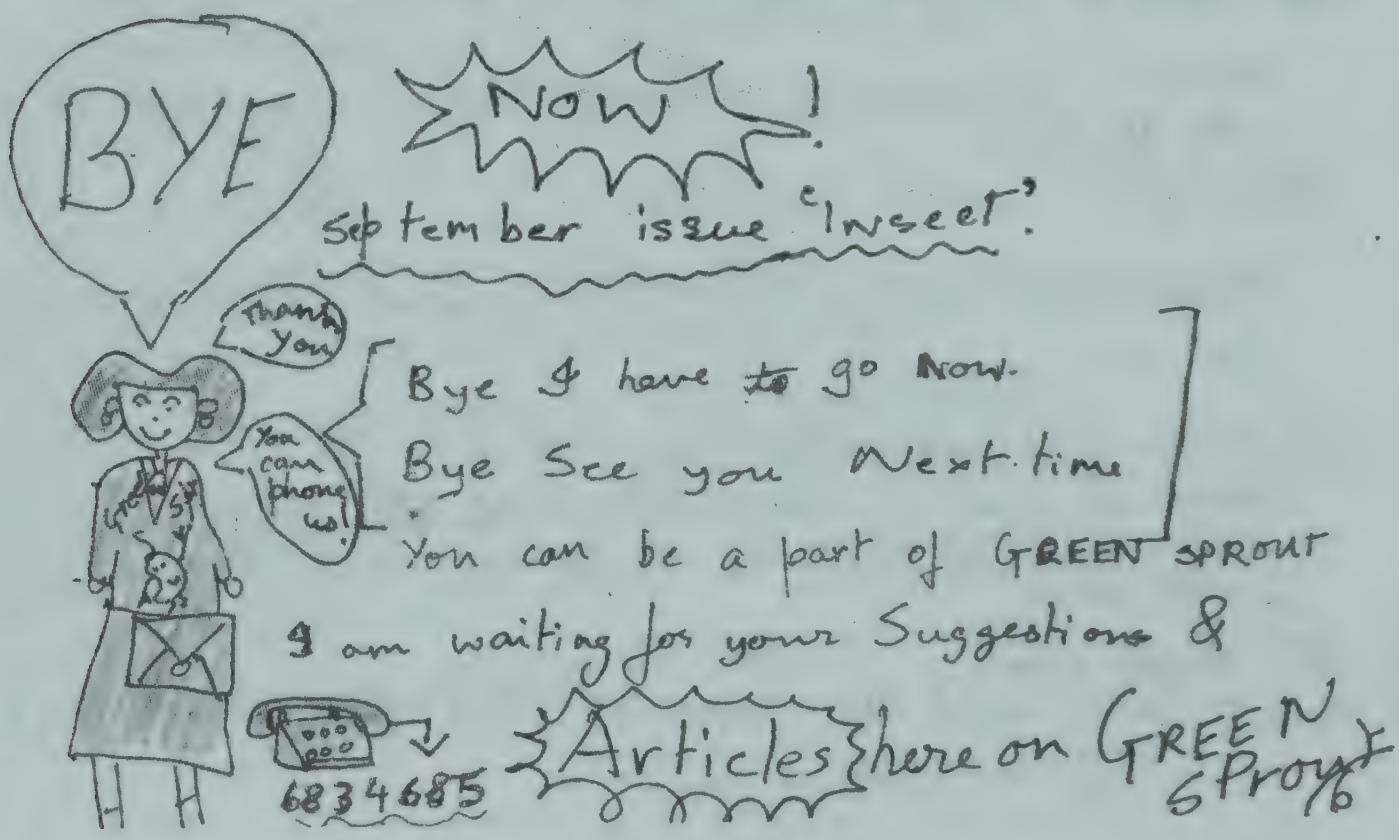
Did you like this Magazine? and did you enjoy Reading and enjoy playing in it?

Is work or study making you sleep like a "Log"?
Does work make you "Rooted" to your seat?
Then buy the August issue which is fun filled colourful, exciting and informative and available



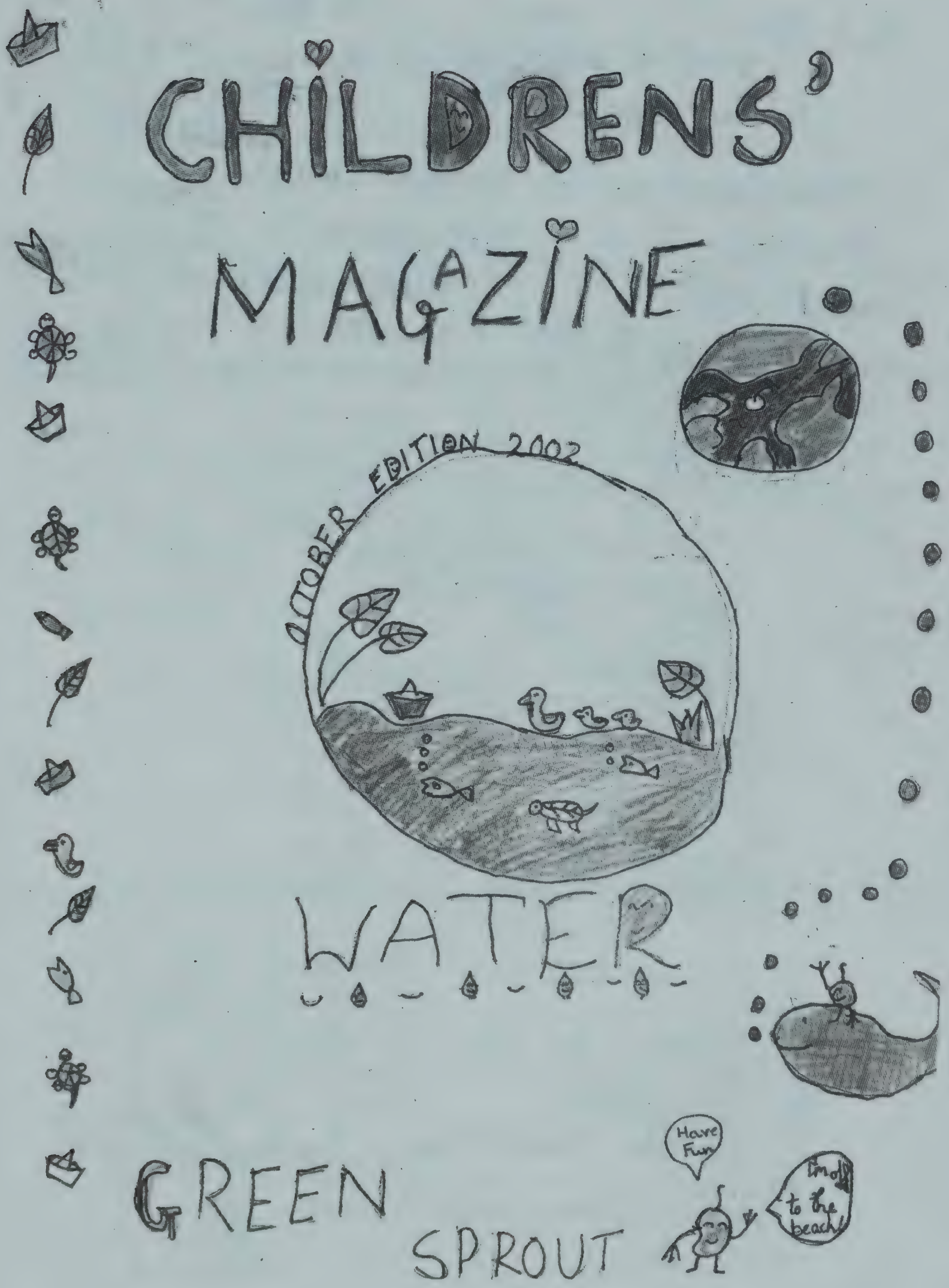
August issue is 'Tree'.

Is work "Bugging" you?
Do you feel as angry as a "Wasp"?
Then buy the September issue which is available

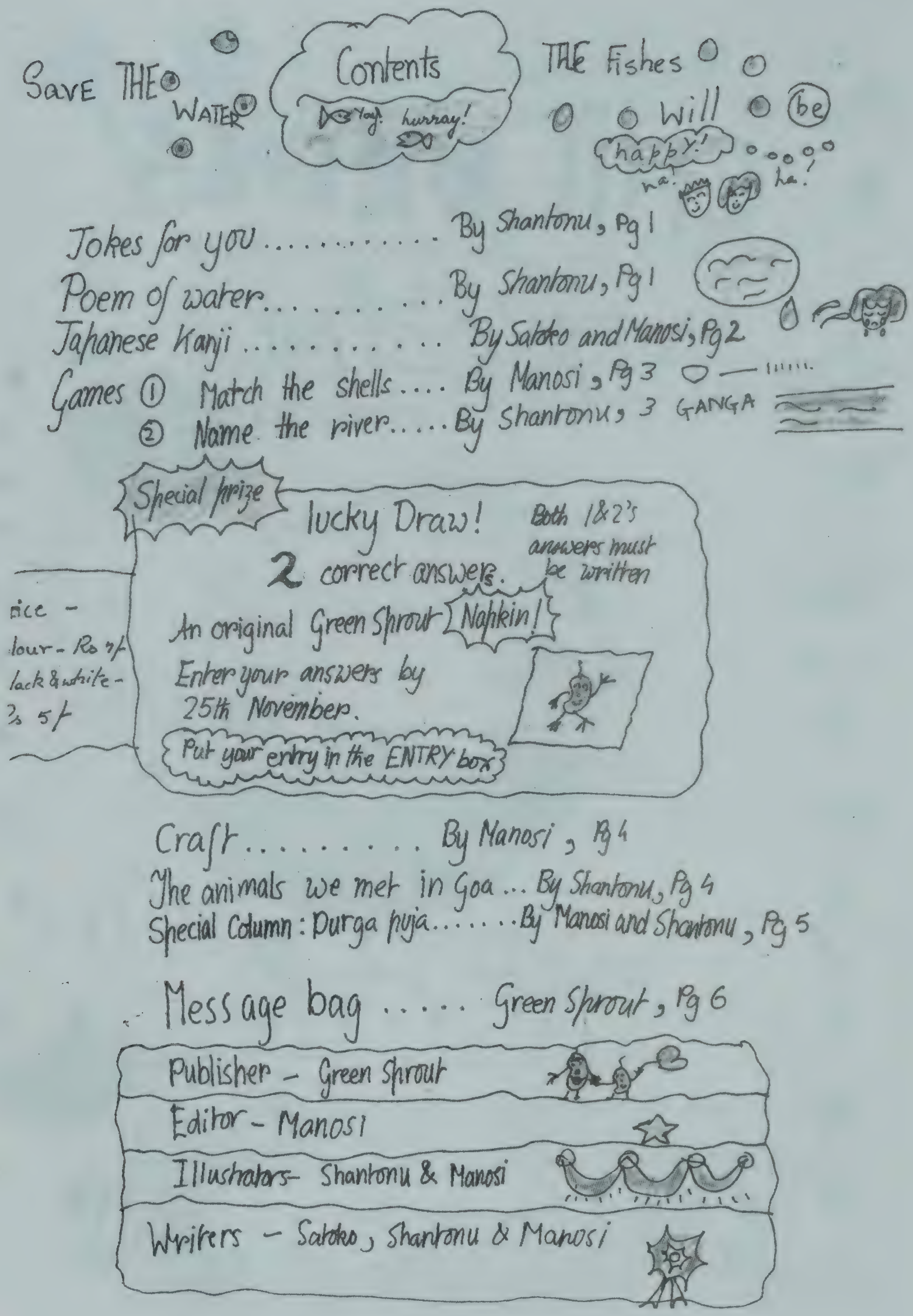

BYE
NOW!
Thank you
You can phone us!
Bye I have to go Now.
Bye See you Next time
You can be a part of GREEN SPROUT
I am waiting for your Suggestions &
6834685
Articles here on GREEN SPROUT

September issue 'Insect'.

(*Children's Magazine - Insects* / September 2002, Page 6)



(*Children's Magazine - Water* / October 2002, Cover)

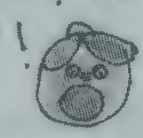

Save THE WATER
Contents
Yay! hurray!
THE Fishes will be happy!
ha! ha!
Jokes for you ..... By Shantonu, Pg 1
Poem of water ..... By Shantonu, Pg 1
Japanese Kanji ..... By Satoko and Manosi, Pg 2
Games ① Match the shells .... By Manosi, Pg 3
② Name the river ..... By Shantonu, 3 GANGA
Special prize
lucky Draw!
2 correct answers.
Both 1&2's answers must be written
An original Green Sprout Napkin!
Enter your answers by 25th November.
Put your entry in the ENTRY box
rice -
lour - Rs 7/-
lack & white -
Rs 5/-
Craft ..... By Manosi, Pg 4
The animals we met in Goa ... By Shantonu, Pg 4
Special Column: Durga puja ..... By Manosi and Shantonu, Pg 5
Message bag ..... Green Sprout, Pg 6
Publisher - Green Sprout
Editor - Manosi
Illustrators - Shantonu & Manosi
Writers - Satoko, Shantonu & Manosi

(*Children's Magazine - Water* / October 2002, Content)

Jokes for you.

A leaking present?

On teachers' day, three students approached their teacher with presents. The first child was the daughter of a sweet-seller. The teacher guessed that the present was a chocolate. She was right. Then the second child, who was the daughter of a florist, she gave her gift to the teacher. The teacher guessed that the present was a bouquet of flowers. She was right again. Now, the third child, the son of a wine-merchant, gave his present. Some drops of a liquid was falling. The teacher tasted the drops and asked "Wine?". The boy said no. "Champagne?" NO again. "Beer?" No. Then what is it? The boy replied "A DOG!"!



Moral: Jumping to conclusions is very, very dangerous!

written by
– Shantonu C.

Water.

By Shantonu C.

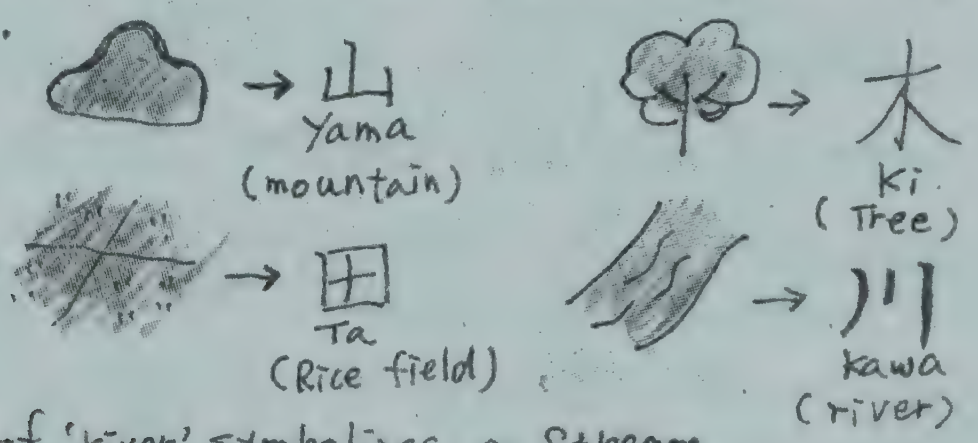
Water is very very wonderful. God has given water to us to see how useful it.

I went down to the sea-side,
When I had a little slide.
I fell down into the salty water,
Where I landed beside an otter.
It scolded me for my clumsiness,
And told me to mind my business!

(1).

~ Japanese KANJI about Stream ~

Japanese KANJI has very interesting pictorial letters. Some basic KANJI letters symbolize the original objects like this ...

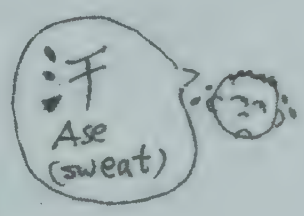


The letter of 'river' symbolizes a Stream and creates another water-related object combining symbol of 氵(looks like Splash, doesn't It !?) and other parts of a letter.

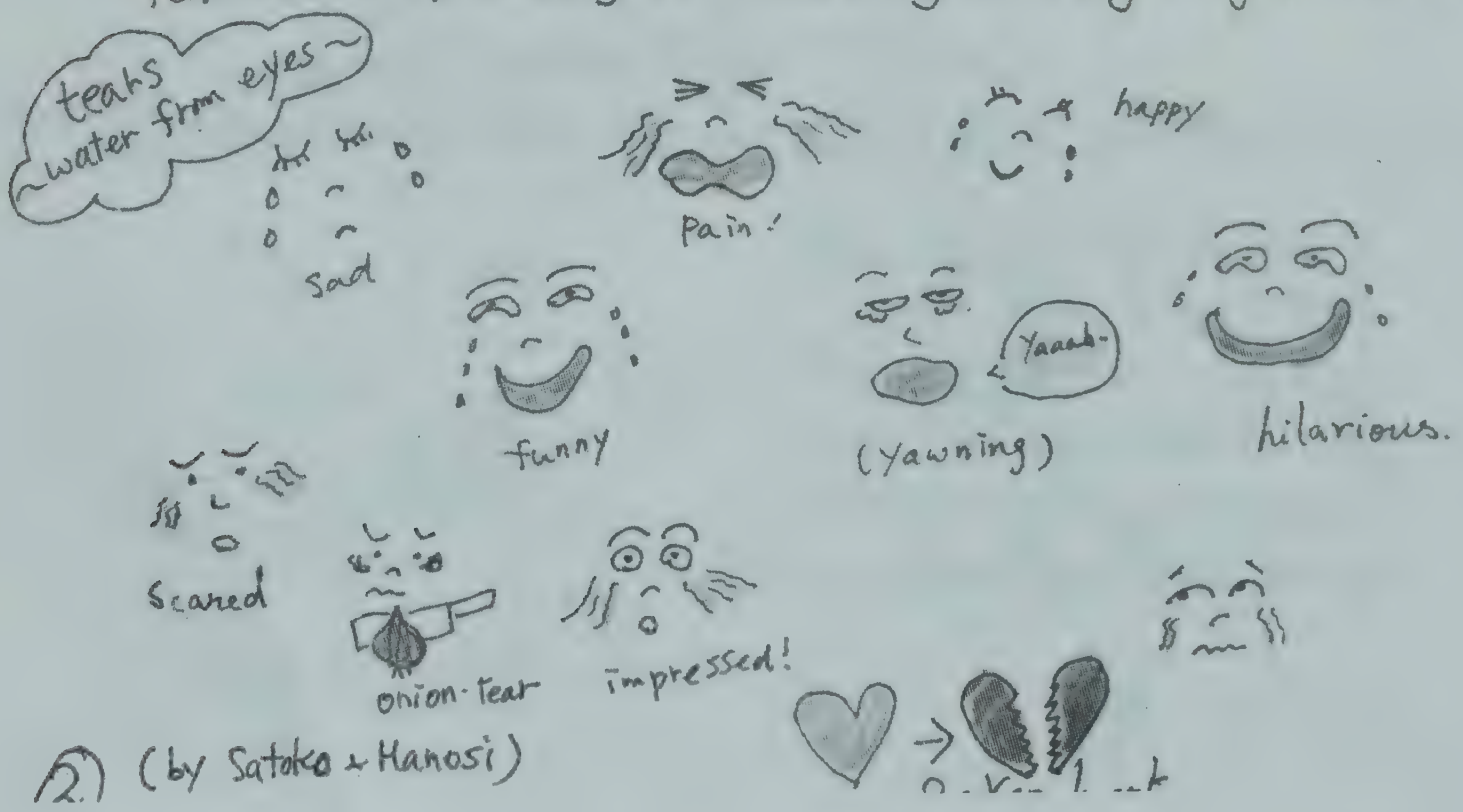
Here 9 show you some examples ——

池 海 湖 波 and 涙

Ike (pond) Umi (sea) Mizuumi (lake) Nami (wave) Namida (tears)



So you can realize 'water stream' comes from your eyes when you feel Sad or pain, and when you fell extremely happy or Something is very very funny!



(2) (by Satoko + Hanosi)

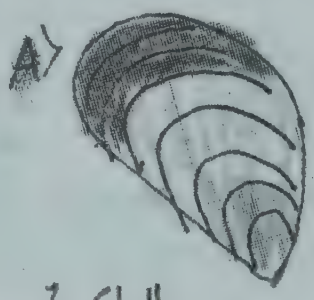
GAMES

Hi! Everybody! I went to Baga Beach in Goa! Then I collected many Shells, And I named them also! Can You Match THEM? G.L

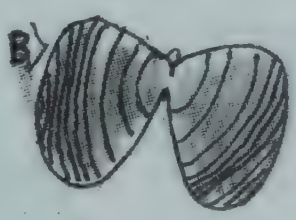
G.L = Good Luck

I)

A)



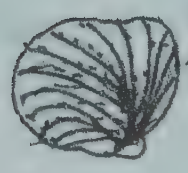
B)



H) 1 Sunset Shell.
2 Angry Eye shell.
3 Biggy.
4 Peacock Shell.
5 Chewing Gum S.
6 Tortoise Shell
7 Unicorn S.
8 High Volume S.
9. Wave Shell.

C)

G)



D)

F)

E)

Find the river in the sentence! There may be words in between

① Mrs Bhagini threw a rat (hastily) into the pond.
② Vishnu is a god whose ten avatars save human kind.
③ I went near a mad dog alone.
④ Miss Esther likes sour milk.
⑤ He and my sister saw the film King Kong.
⑥ The game is easy to play.
⑦ Miss Margaret is sipping a cup of tea.
⑧ We can make many things from yams such as buns and cakes.

Craft

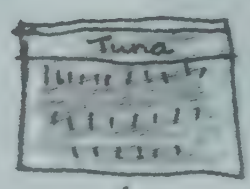
Things you need - Fevi Kwik, waste tin or earthen cup (Bhar), pretty waste paper and sea shells.

1. For the Bhar

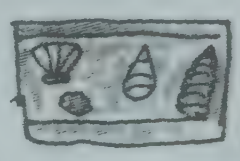
first put the fevi kwik and stick the sea shells

You can use the Bhar for keeping seeds or small idols of gods or goddesses or your treasure.

2 for tin

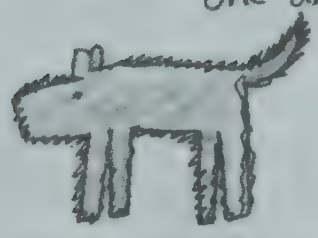


first put the paper on the tin with glue and then put the sea shells



You can use the tin for pen and pencil stand or for keeping treasures

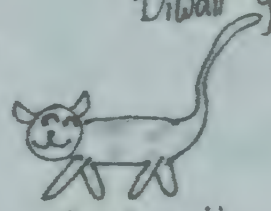
The animals we met in Goa were



Dingo, the Dog

Alitaptap

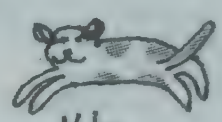
Niece-ji



Aunty-ji

Scratchy

fidgety



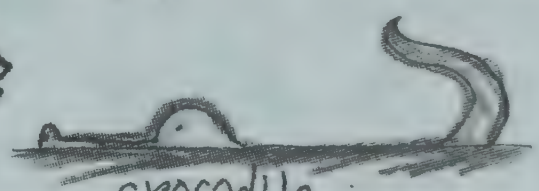
Khe

Bianca

Lara (s)

Hissy

fiddler



crocodile

Sunbird

Turkey

Chicks

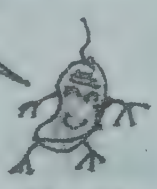
Plover

(*Children's Magazine - Water* / October 2002, Page 4)

Special Column

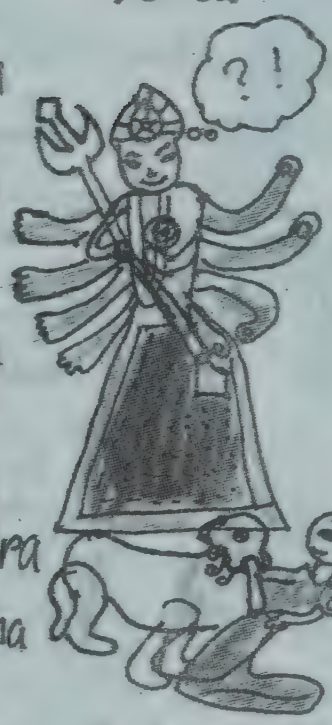
Durga puja

Durga puja, the festival of Bengalis is the worship of "Shakti" or the divine power.



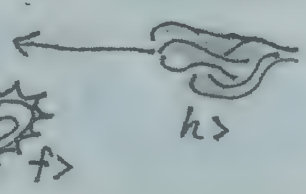
How much do you know about Ma Durga's weapons?
Which weapon belongs to whom?

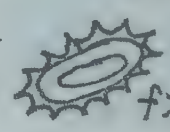
Quiz



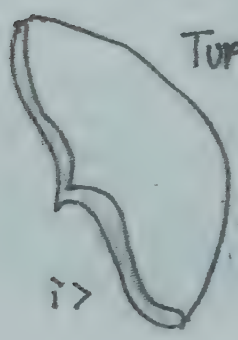
1) Vishnu
2) Shiva
3) Varuna
4) Agni
5) Vayu
6) Surya
7) Yama
8) Indra
9) Kubera
10) Shesha

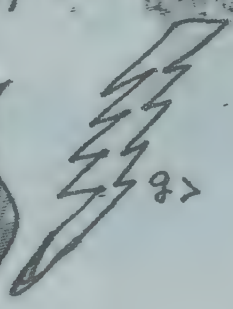
a) Club
b) conchshell
c) Arrows
d) garland of snakes
e) Trident
f) Discus
g) Thunderbolt
h) flaming darts
i) Bow
j) Iron rod

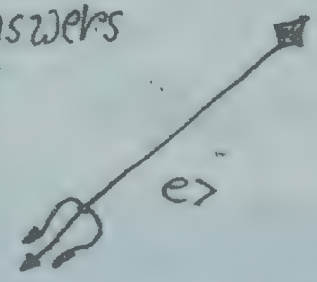




Turn the page upside-down for answers

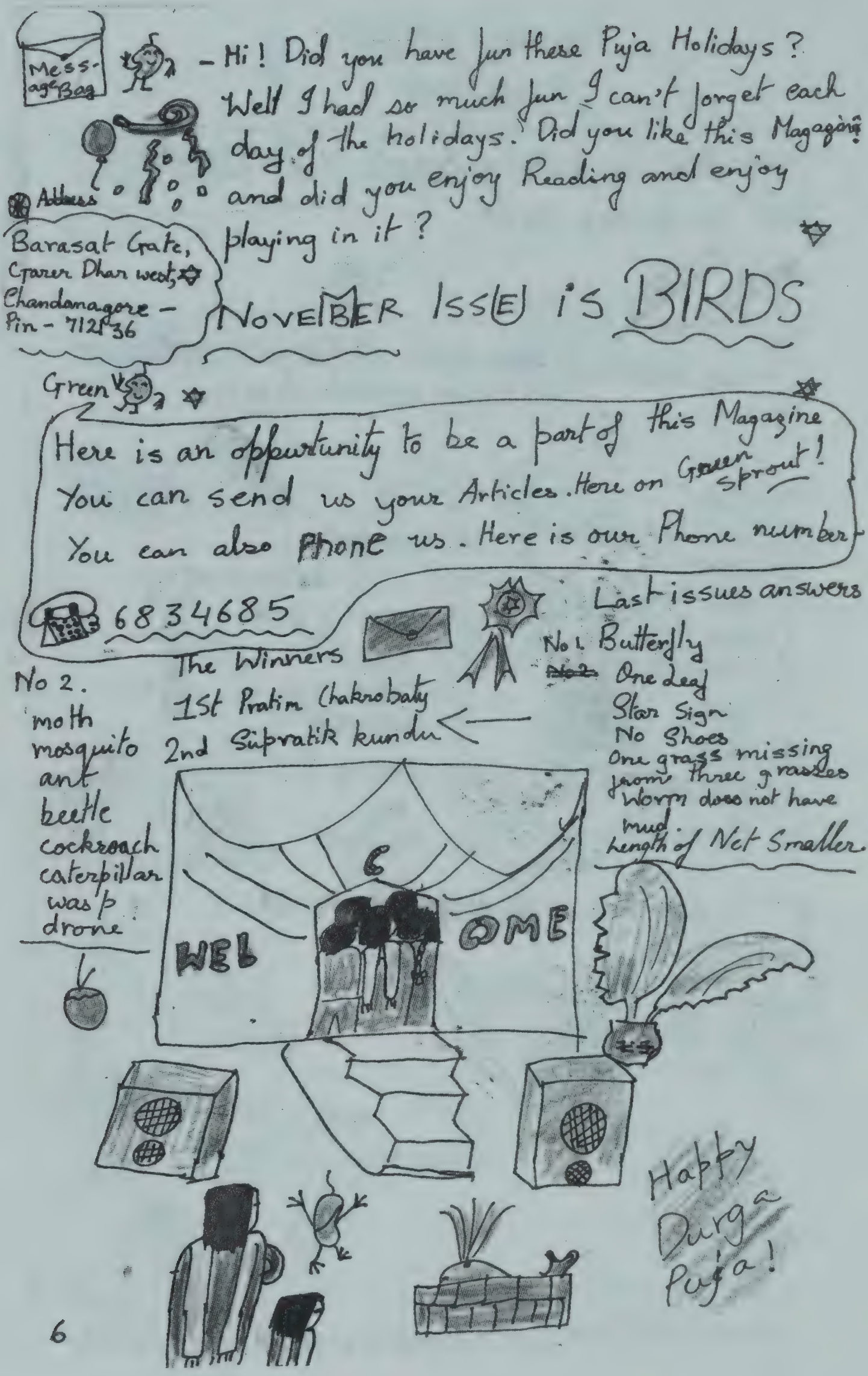






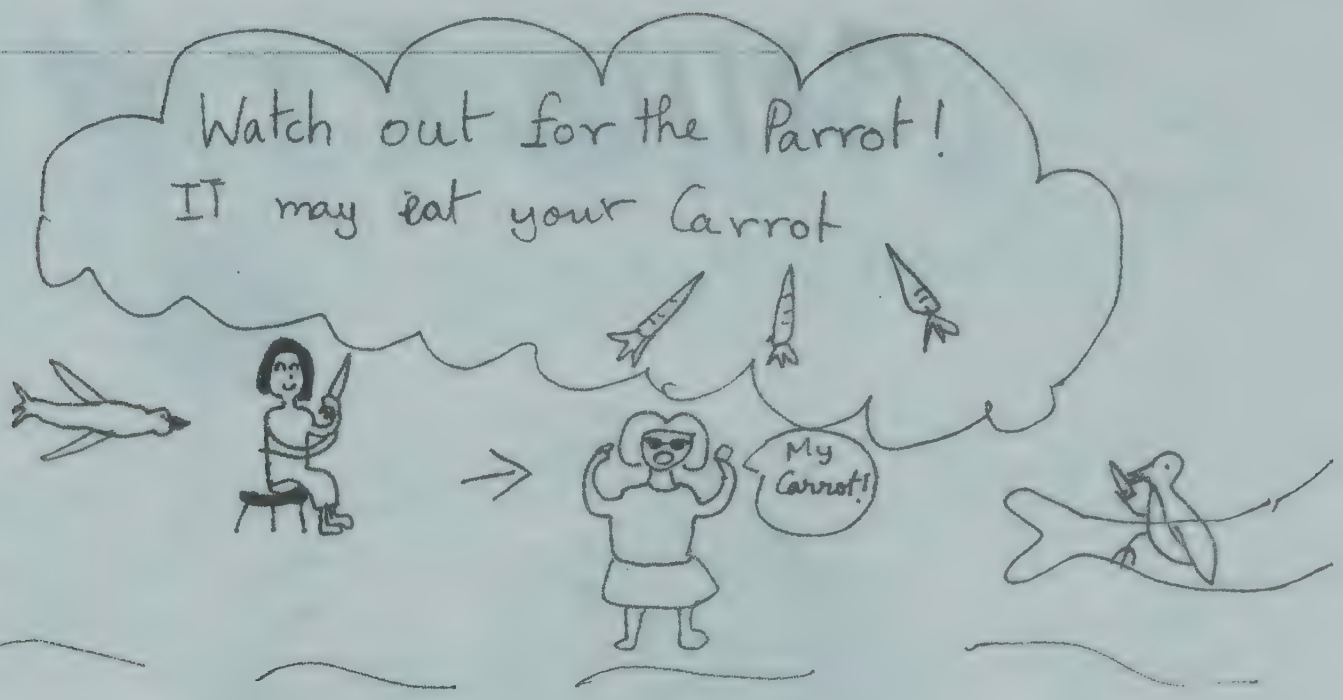
Answers : 1=f, 2=e, 3=b, 4=h, 5=i, 6=c, 7=j, 8=g, 9=a, 10=d

(*Children's Magazine - Water* / October 2002, Page 5)


Mess-age Bag
- Hi! Did you have fun these Puja Holidays? Well I had so much fun I can't forget each day of the holidays. Did you like this Magagine and did you enjoy Reading and enjoy playing in it?
Address
Barasat Gate, Gparer Dhar west, Chandanagore - Pin - 712136
NOVEMBER ISSUE is BIRDS
Green
Here is an opportunity to be a part of this Magazine You can send us your Articles. Here on Green sprout! You can also Phone us. Here is our Phone number
6834685
The Winners
1st Pratim Chakrobaty
2nd Supratik kundu
Last issues answers
No 1. Butterfly
No 2. One leaf
Star Sign
No Shoes
One grass missing from three grasses
Worm does not have mud
Length of Net Smaller
No 2. moth mosquito ant beetle cockroach caterpillar wasp drone
WEL
OME
Happy Durga Puja!
6

(*Children's Magazine - Water* / October 2002, Page 6)

(*Children's Magazine - Birds* / December 2002, Cover)



Contents

1. Jokes for you — ha ha ha ha → Manosi — Pg 1
2. A girl named Pakhi (Pakhi means bird in bengali) — Con
3. Water essay — Pg 2
4. A Poem of water - PAKHI — Pg 3
5. Colour us. — Manosi — Pg 4
6. Did you know? - Manosi — " "
7. Useful Books for bird watching. - Manosi — Pg 5
8. Interview with Editor - Shantonu. & Satoko.
9. Message bag - Green Sprout.

Publisher - Green Sprout

Editor - Manosi

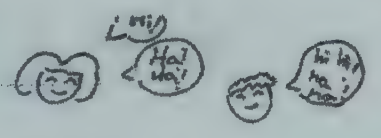
Illustrators - Shantonu & Manosi.

Writers - Shantonu, Satoko & Manosi.

Have Fun Reading.

(*Children's Magazine - Birds* / December 2002, Content)

Jokes for you.



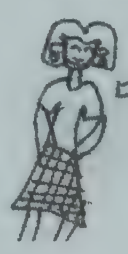
There was an owner of a parrot which used to say bad things to everyone. So the owner tied a red string ~~xxx~~ one of his feet and a blue one on the other foot. If he pulled the red string the parrot would say 'Radha' if he pulled the blue string the parrot would say 'Krisha'. Then one day the owner went into his house to prepare his lunch. After a short while a passer ~~by~~ came by and when he saw the blue and the red strings he became curious and pulled the red string the parrot said 'Radha' and then pulled the blue string it said 'Krishna' the passer by was pleased and then thought "If I pull the strings together it will say 'Radha Krishna'. So thinking that he pulled both the strings at the same time and the parrot said 'hai donkey I will fall down no!'

A Girl named Pakhi!

I met a girl named Pakhi and her real name is Pakhi I met her in Goa we became good friends. And she sent an article to Green Sprout! This is our first article! Thankyou Pakhi.
Guess what, Pakhi has 6 cats! 1 dog named Bingo & 1 Tortoise named Ali Tap Tap!
She wrote an Essay and a poem about water.

See Next page.

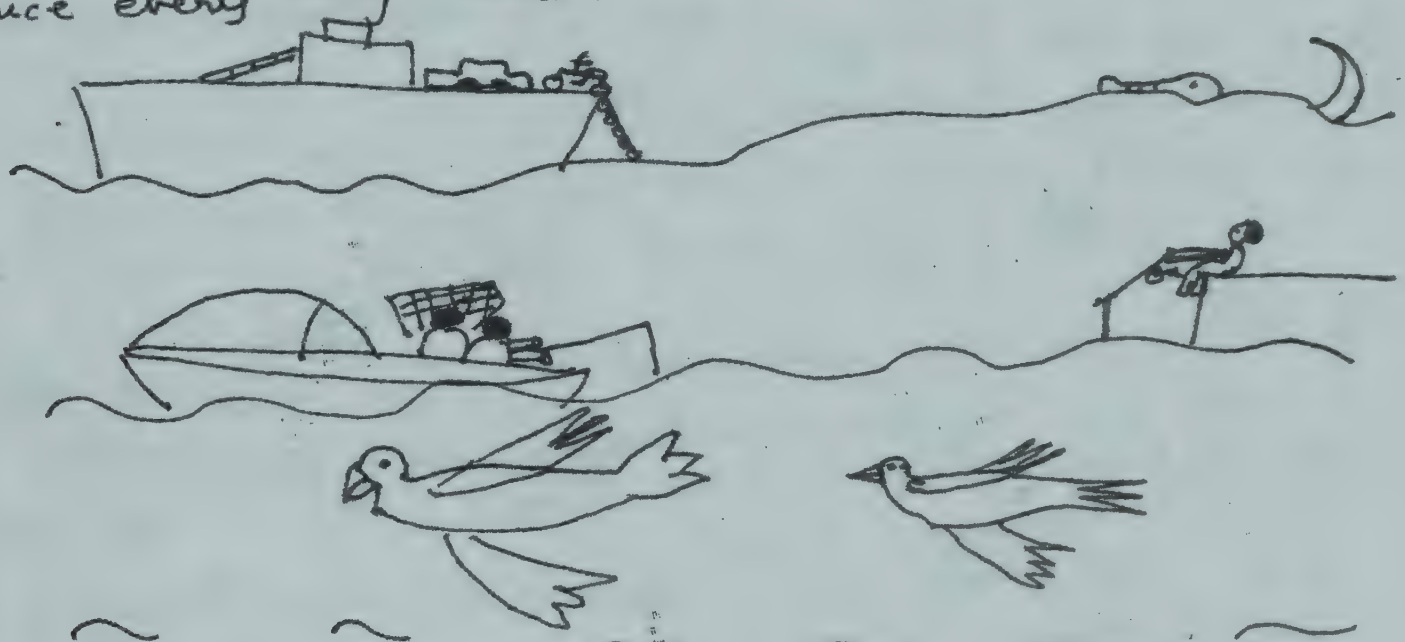
Pakhi also has to cross a river by a ferry boat. To reach to school, to go to the market and etc.



Water essay

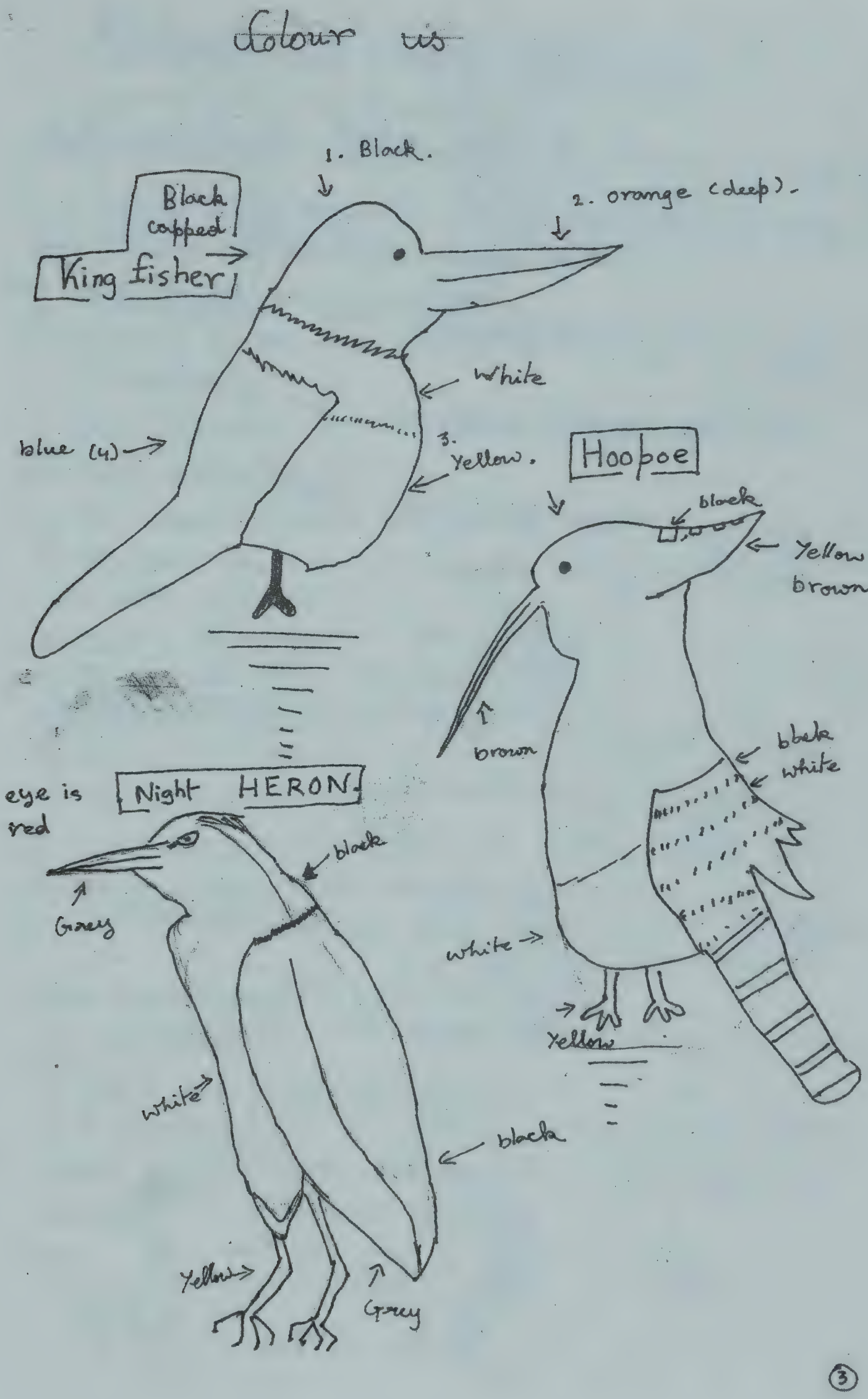
by Pakhi

I went in a Ferry boat and I saw a crocodile. It was a baby but it was very big and it was very beautiful. We went right on top of the ferry boat to see the crocodile. To go every day to school we have to go on the ferry boat to go to the other side of the river. We see men fishing on fishing boats they catch fish, prawns and crabs. Egrets fly and go to their nests. Water skippers go skipping in the water. Blue swallows fly in the sky and dance. King fishers go very close to the water then dive in for fish they all look so colourful. Barges come and go on the River water snakes go fast on the water and eagles fly around the River how nice every thing looks.



A poem of water by Pakhi

Water is beautiful it is blue, green and transparent don't polute it. All the beautifulness will go away. I love the water and I love the sea. The sea looks so shiny like a diamond sea.



(*Children's Magazine - Birds* / December 2002, Page 3)

Did you Know?

1) Did you know the {black capped Kingfisher} eats fish & crabs.

Its call is - Kii, Kiii, Kii.

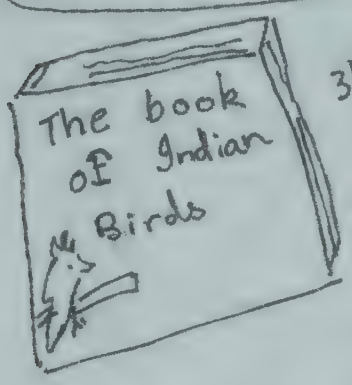
2) Did you know the {Hoopoe} eats Insects, Grubs and pupae?

Its call is - hoo-po - hoo-po-po.

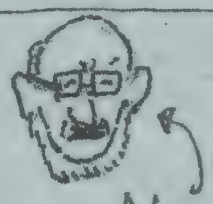
3) Did you know the {Night-Heron} eats Insects, frogs and Crabs.

Its call is - Waku!

Useful books FOR Bird Watching.



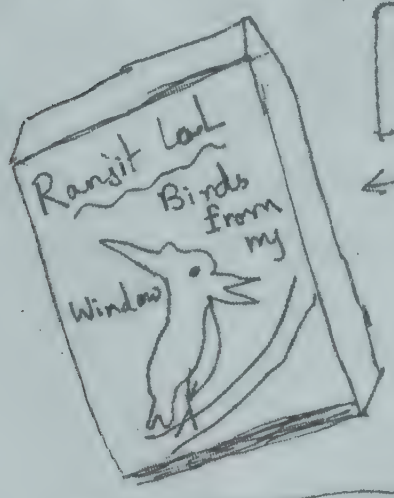
354 pages
395 RS.



← By Salim Ali
(Published by Bombay Natural History Society)

Available now!

"My Nature Garden book of BORDS Part-I"
by Greeen Sprout-
(Marosi)



← By RANJIT LAL

"Birds from my window"
(Published by Tulika)
Pgs. 72 Rs 100

You can order now →

10 Pages. Rs 10

(4)

Interview with Editor of Green Sprout

Q. Why did you start Children's Magazine?

(M) I saw my school magazine and thought I could also make a magazine not only for children but for adults too.

Q. Do you enjoy the work of the editor?

(M) Yes, I enjoy the work because I am an "EDITOR!". I can be like J.K. Rowling.

Q) Wow! J.K Rowling. She is very rich now! How about you?

(M) I have about 146 rupees.

Q) Oh! So much! Do you get this by selling magazines?

(M) Well, almost. Some of the money came from helping my mother and some from selling home-grown seeds.

Q) What is the most difficult part of editing?

(M) Thinking about what to write and arranging articles and then colouring.

Q) Does everybody like your magazine?

(M) I'm not so sure.

Q) What kind of prizes can we readers expect?

(M) Napkins, bags, paperweights, candles, etc with Green sprout logo

Q) Can you recommend some books for children?

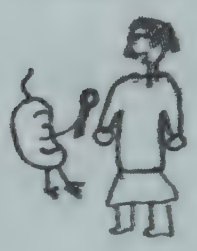
(M) Harry Potter (1st & 4th book), Tyltyl's Adventure To the local bazaar, ↳ it's about a baby turtle's adventure

Q) How long are you going to continue this magazine?

(M) I don't know exactly. I think maybe till I am a teenager (3~4 years)

Q) What is your message to readers?

(M) I hope you will like the magazine and contribute your articles to Green Sprout. And may I ask, "Where do you keep your magazine?"



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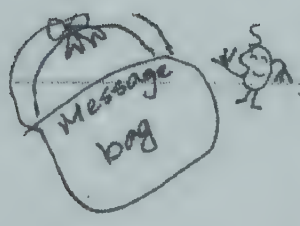


Did you enjoy this edition? And have you tried to make your own bird book racking? To make it just use some white or any colour paper and watch birds in your garden or when you travel from place to place.

✡ Next dition is Energy (Man Power)

✡ Including Christmas Column

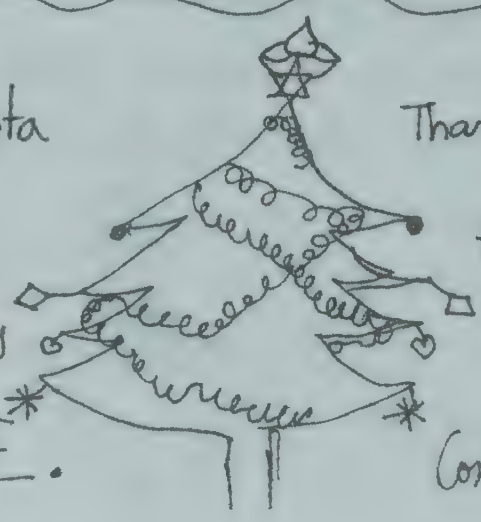
Ho, Ho, Ho! Merry Chris tmas!

The Answer for October issue's Game.

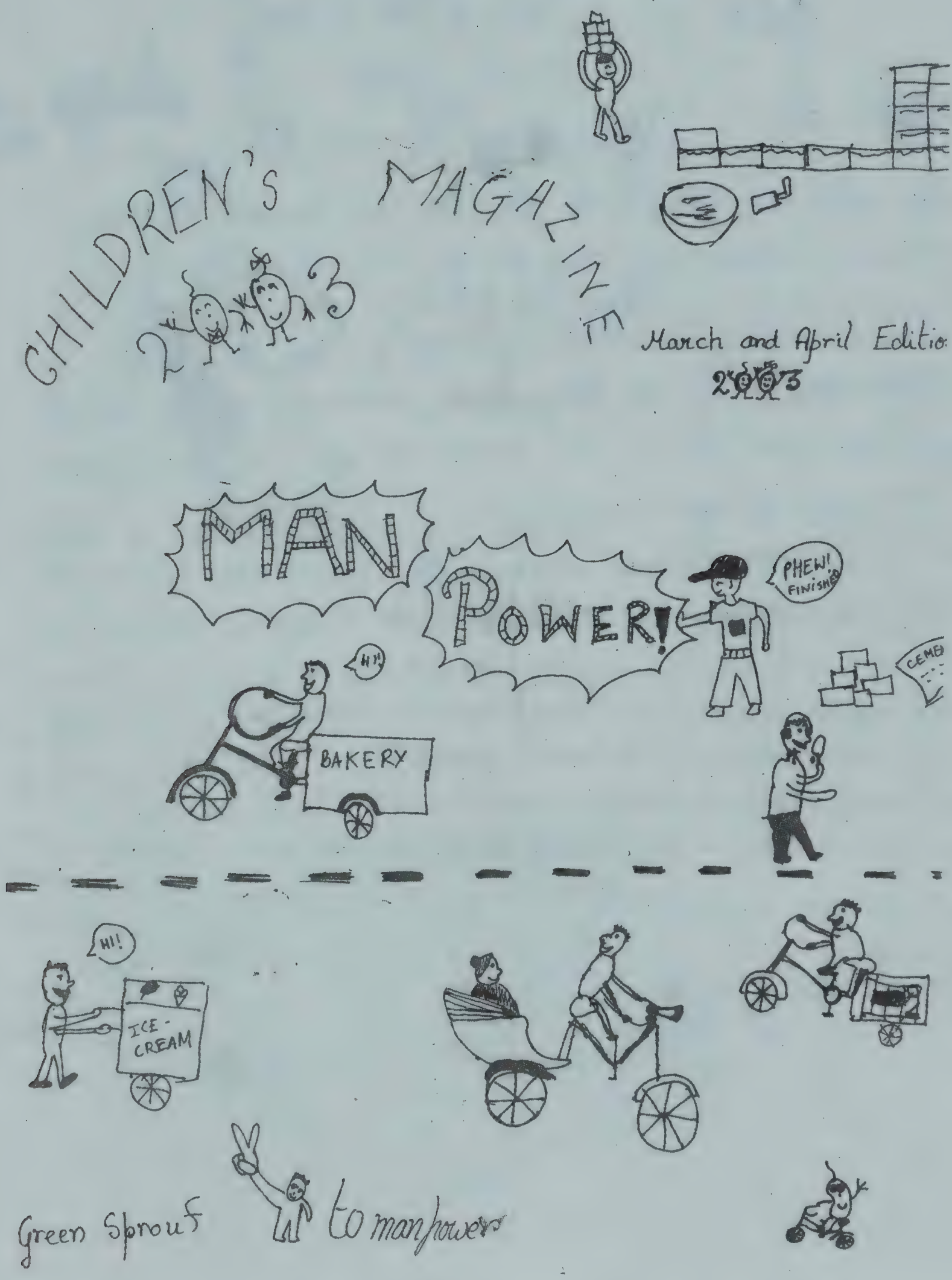
(1) 1. Sunset Shell. Ans. I
2. Angry Eye . Ans. B
3. Biggy . Ans . D
4. Peacock Shell. A
5. Chewing Gum. Ans. E
6. Tortoise . Ans. F
7. Unicorn . Ans. C
8. High Volume . Ans . H
9. Wave Shell. Ans. G

(2) 1. Bhagirathi
2. Godavari
3. Narmada
4. Missouri
5. MeKong
6. Thames
7. Missisippi
8. Yamuna

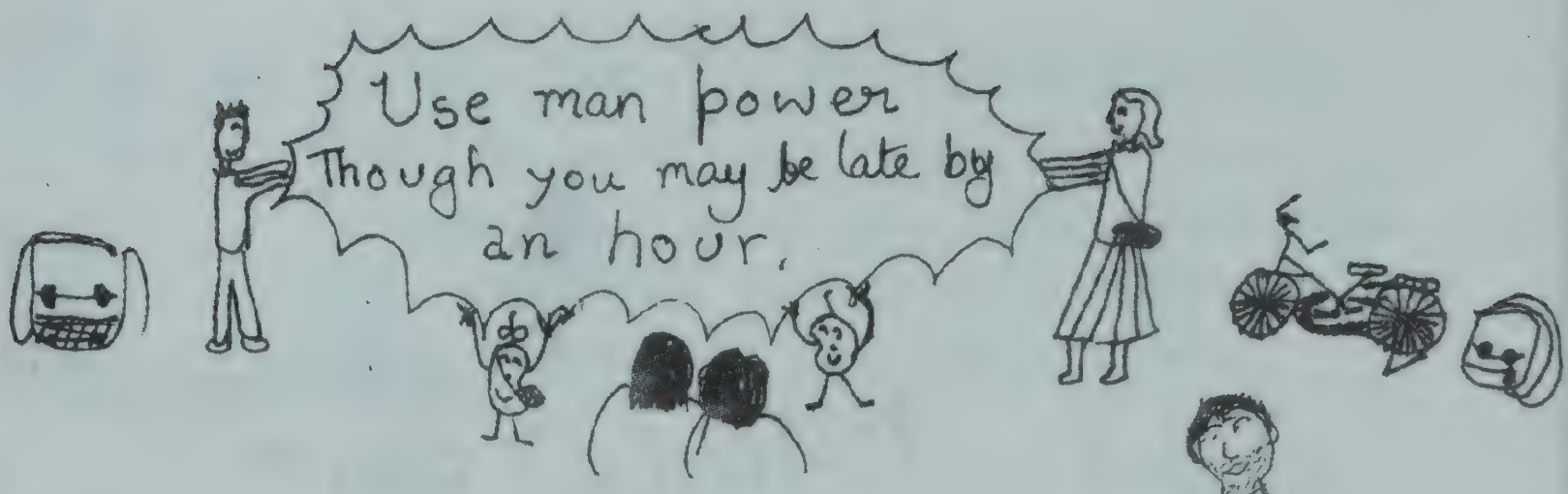
Paromita Das Gupta entry. You were Give us an entry a PRIZE.



Thank you for your the only one to so we Give you Congrats.

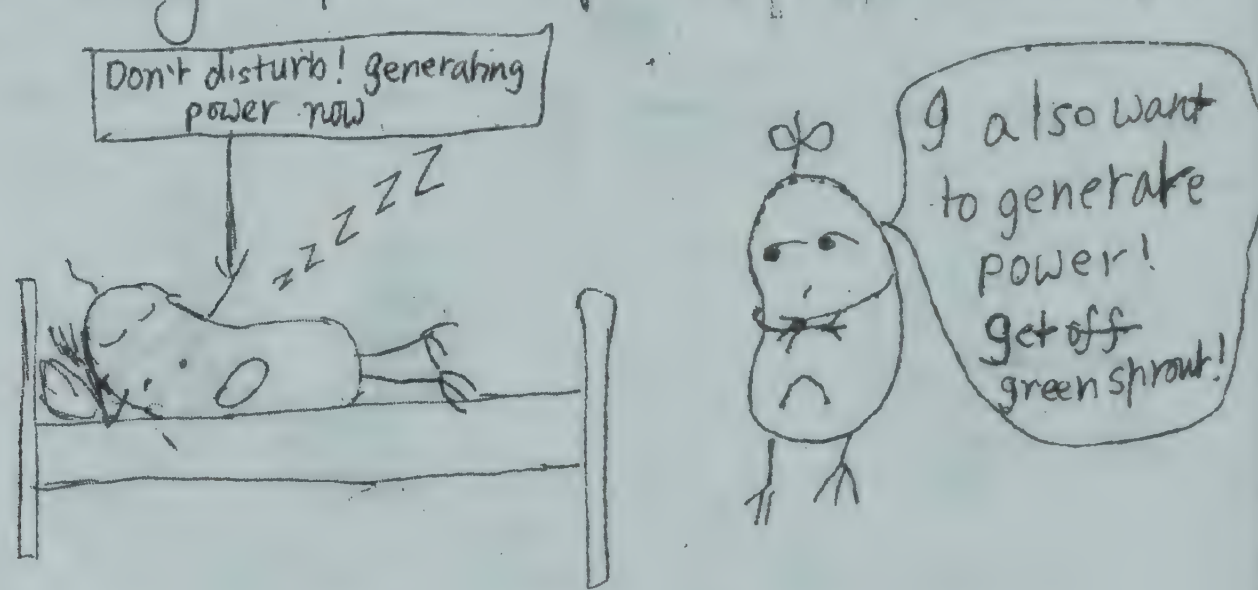


(*Children's Magazine - Man Power* / March & April 2003, Cover)

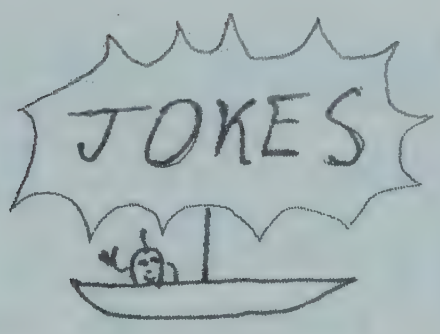


Contents

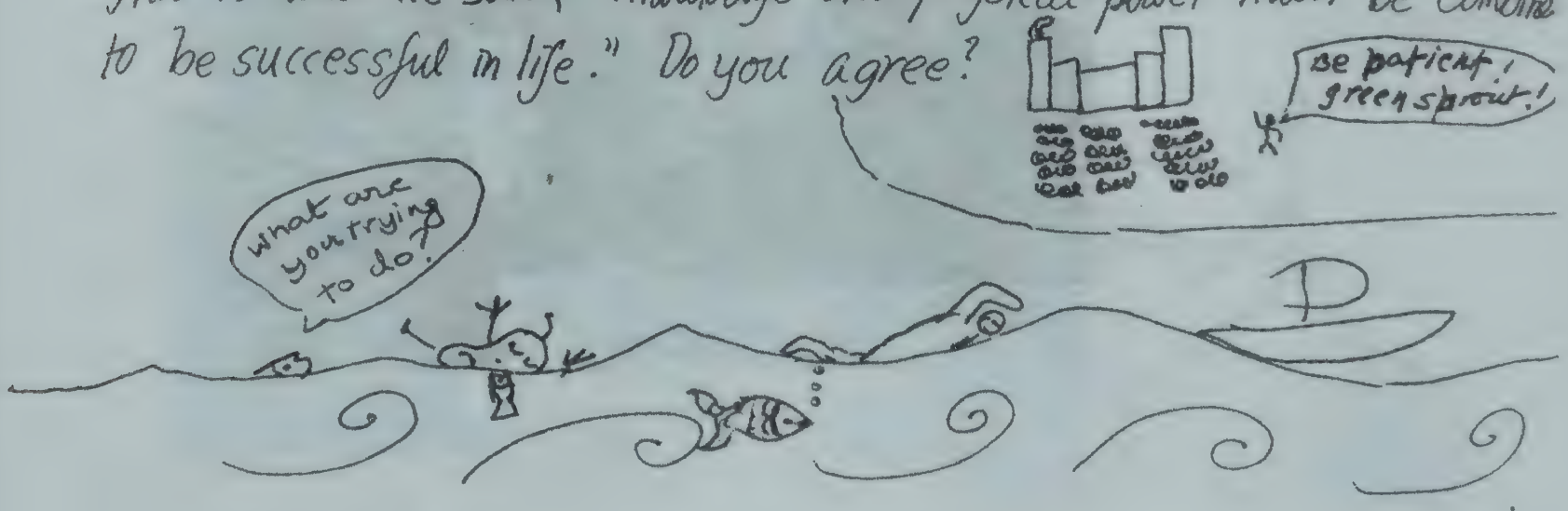
Jokes BY Shantonu . . . . Pg 1
Essay By Manosi . . . . Pg 2
Picture game 'Match the following' . . . Pg 3
Do you have the power? . . . . Pg 4
Colour me 'Women's Power' . . . . Pg 5
Message bag - Green Sprout . . . Pg 6



(*Children's Magazine - Man Power* / March & April 2003, Content)



One day Green Sprout (G.S) was invited to the opening of the Syamnagar Jute mill farm which was on the other side of the river. When he reached the river, he only saw a boy (about age 15) rowing a boa He asked whether the boy would take him across the river or not. The boy replied "yes". At that time, some dark clouds had gathered in the sky. After a few minutes, G.S asked the boy, "Do you have a magazine named after you?". The boy replied, "NO." G.S said, "chee chee, half your time is wasted". Next, he asked, "Have at least read my magazine?". The Boy replied "No". G.S said, "oof, 1/4 of your time is wasted". By this time a storm had sprung up. Now the boy asked G.S, "Do you know how to swim?". G.S replied "No". The boy said, "iish, 3/4 of your time is wasted". saying this the boy jumped out and swam ashore, just as the boat turned over. Luckily, as G.S is a bean he floated to shore, after 1 hour. G.S returned home that day, a wiser and humbler bean. After he relate his story to Manosi and Shantanu, he told them what he learnt. This is what he said, "Knowledge and physical power must be combine to be successful in life." Do you agree?



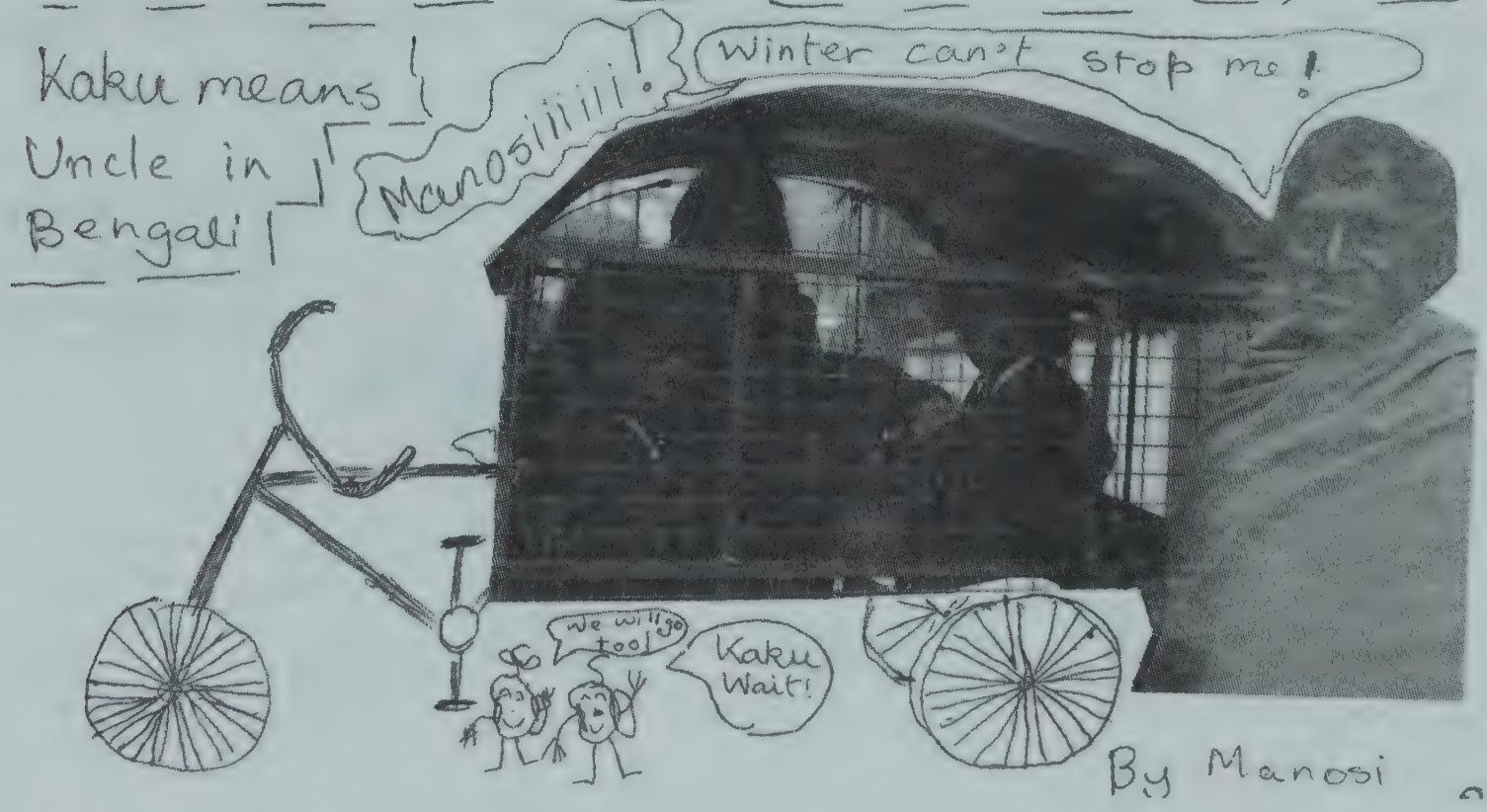
1

(*Children's Magazine - Man Power* / March & April 2003, Page I)

KANAI KAKU MY FAVOURITE RICKSHAW PULLER

Kanai Kaku is the name of my Rickshaw van puller. I go to school in his Rickshaw van with my friends, Kanai Kaku is thin but very strong. Usually he takes 8 children but sometimes he takes nine or more children in his van. Sometimes when the van breaks down we have to go by bus, but going by van is much more enjoyable That is why I go by van. Whenever there is a festival, he takes us around in his van to see all the Idols & if there is fair he let us on the rides. The rain and sun CAN'T STOP HIM. HE IS THE BEST

Kaku means Uncle in Bengali



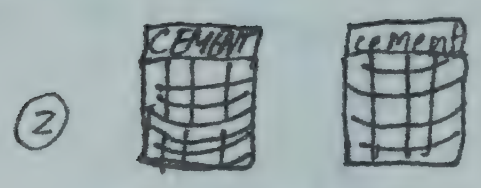
By Manosi

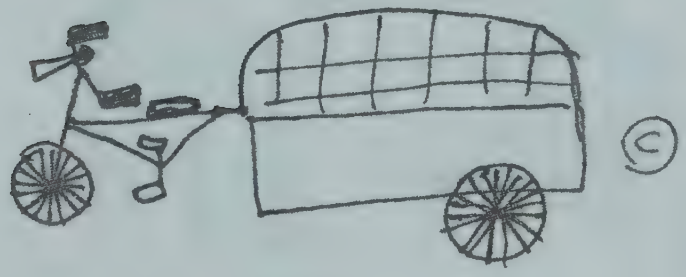
(*Children's Magazine - Man Power* / March & April 2003, Page 2)

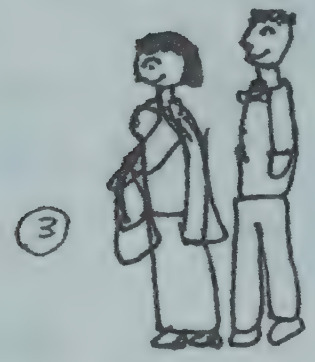
Picture Game

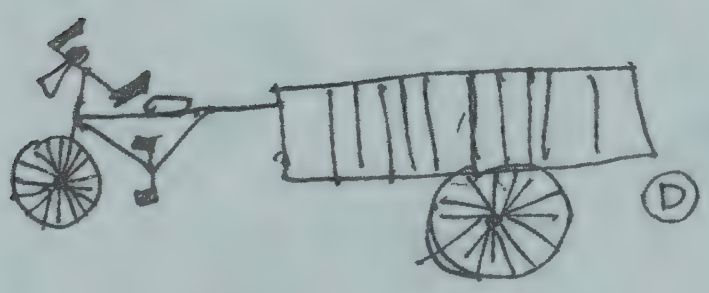
Match the following :

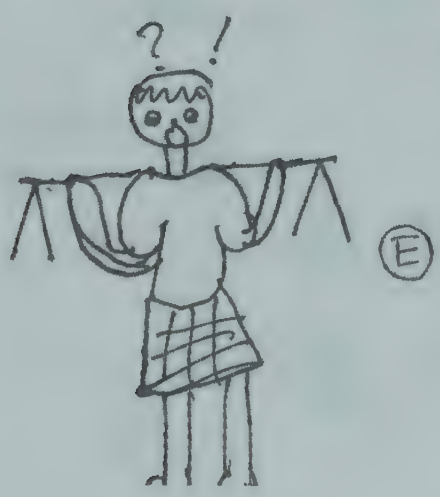
Contest. For more details go to message Bag.

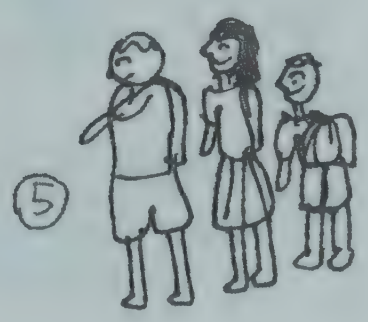












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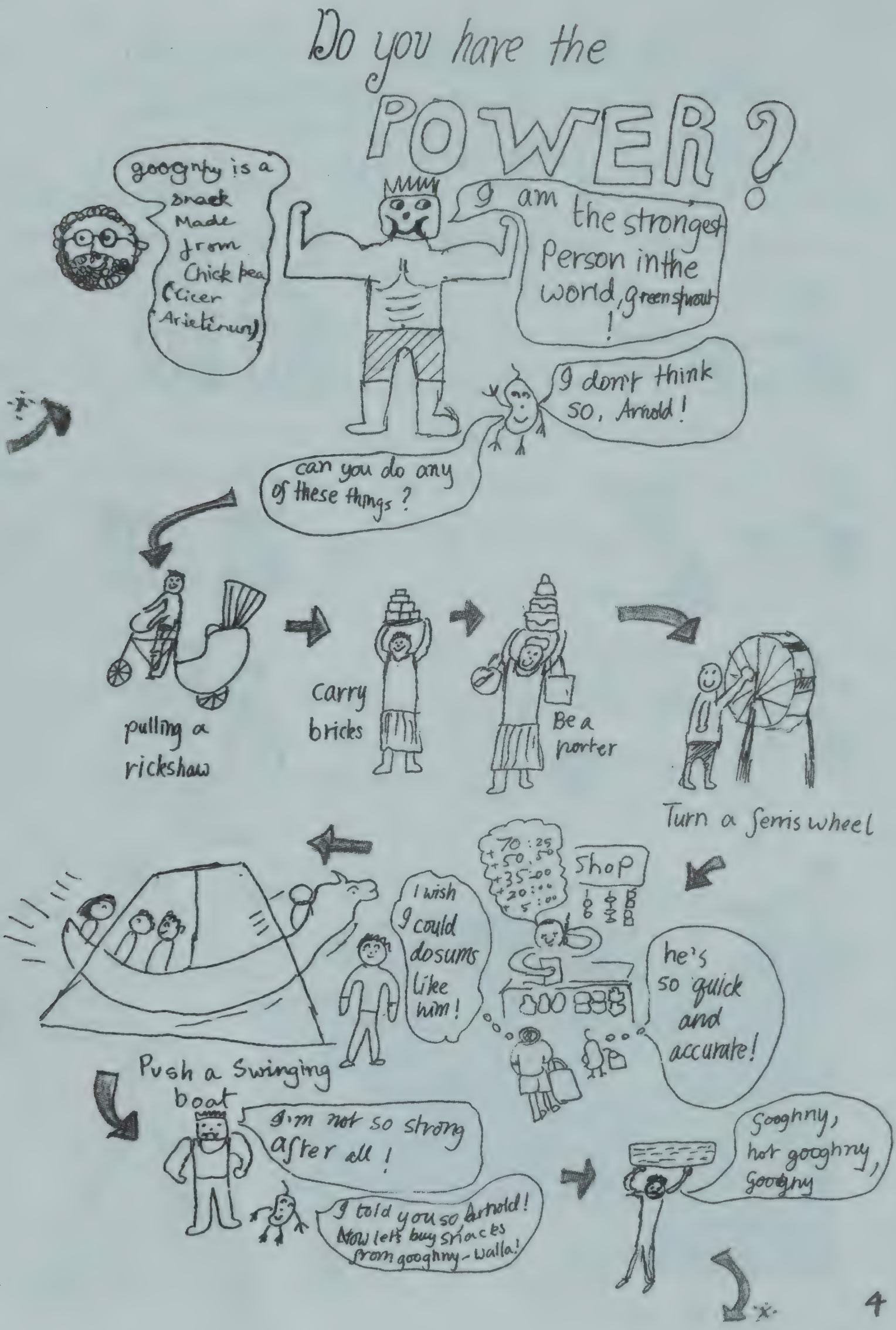
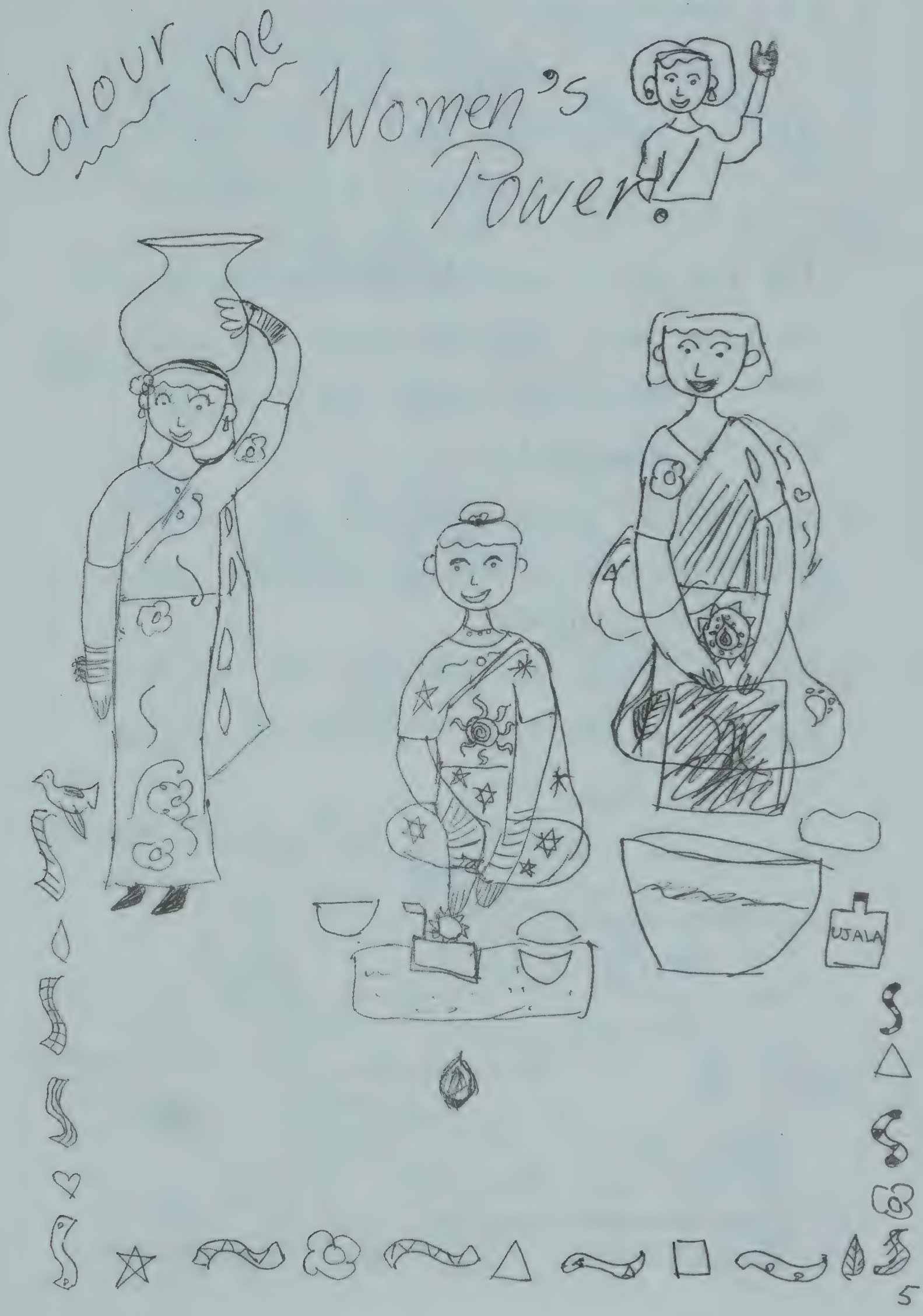
(*Children's Magazine - Man Power* / March & April 2003, Page 3)


Do you have the POWER?
googhny is a snack Made from Chick pea (Cicer Arietinum)
I am the strongest Person in the world, Greensprout !
I don't think so, Arnold!
can you do any of these things ?
pulling a rickshaw
Carry bricks
Be a porter
Turn a ferris wheel
Push a Swinging boat
I wish I could dosums like him!
Shop
he's so quick and accurate!
I'm not so strong after all !
I told you so Arnold! Now lets buy snacks from googhny-walla!
Googhny, hot googhny, Googhny
4

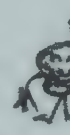
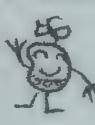
(*Children's Magazine - Man Power* / March & April 2003, Page 4)

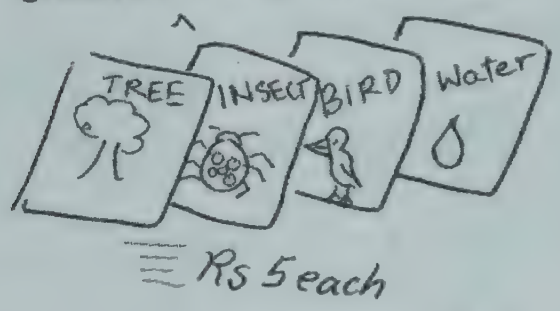


(*Children's Magazine - Man Power* / March & April 2003, Page 5)

Message Bag

- Did you enjoy our Magazine of 'Man Power'? We are sorry that this issue took a long time to be made. Next issue is 'Our trip to Auroville'.

- Meanwhile Green Sprout  found a girl friend, Pea SProuT  . She loves Sports & Peace.
- Prize for "Match the following" (picture game) will be a free Edition of 'Our trip to Auroville' signed by Kanai Kaku!
- Back issues are available & My NATURE GARDEN BOOK OF BIRDS.



We are waiting for your Articles!

Send here!

Green Sprout
Barasat Gate, Garer Dhar West,
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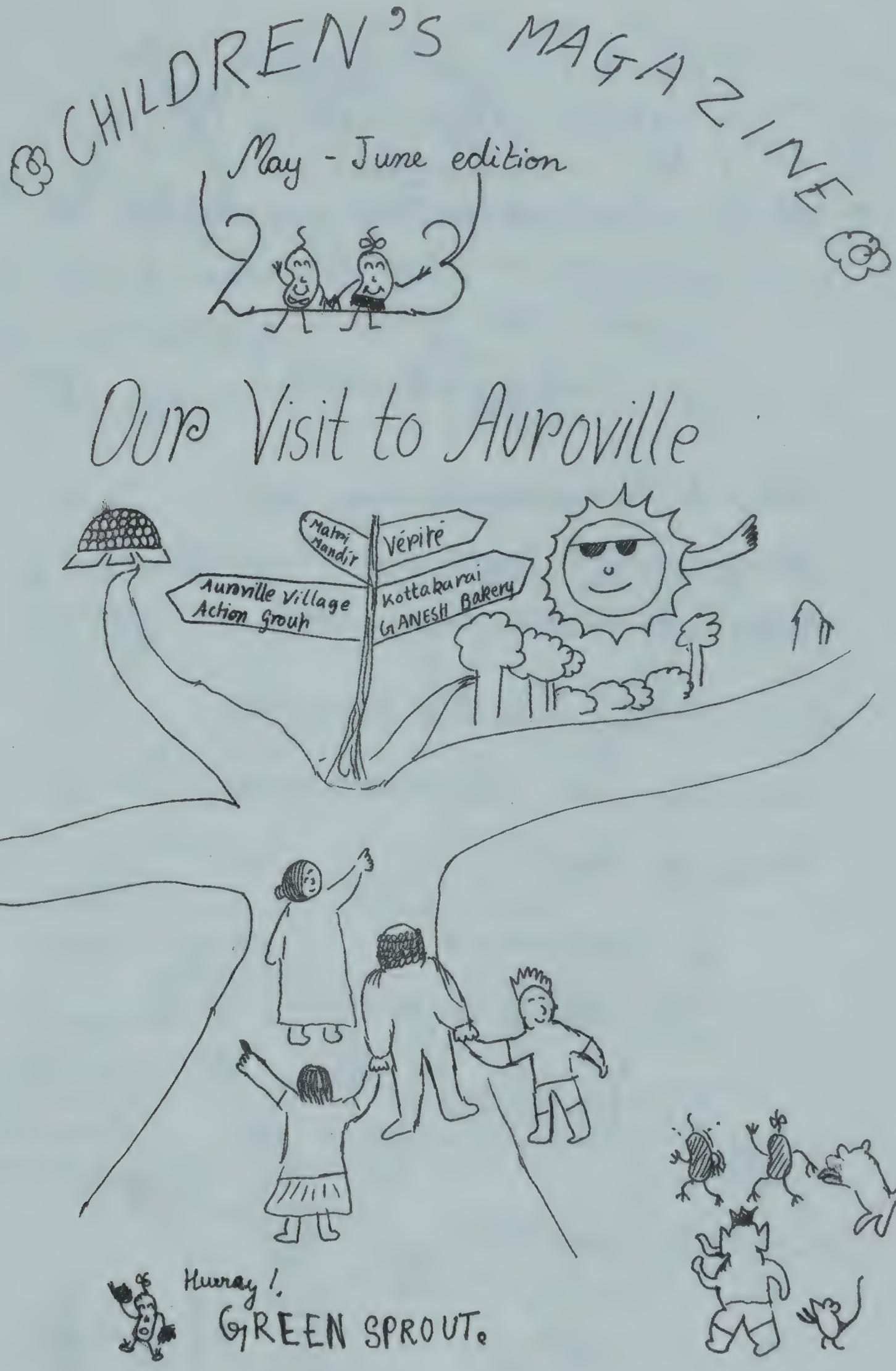

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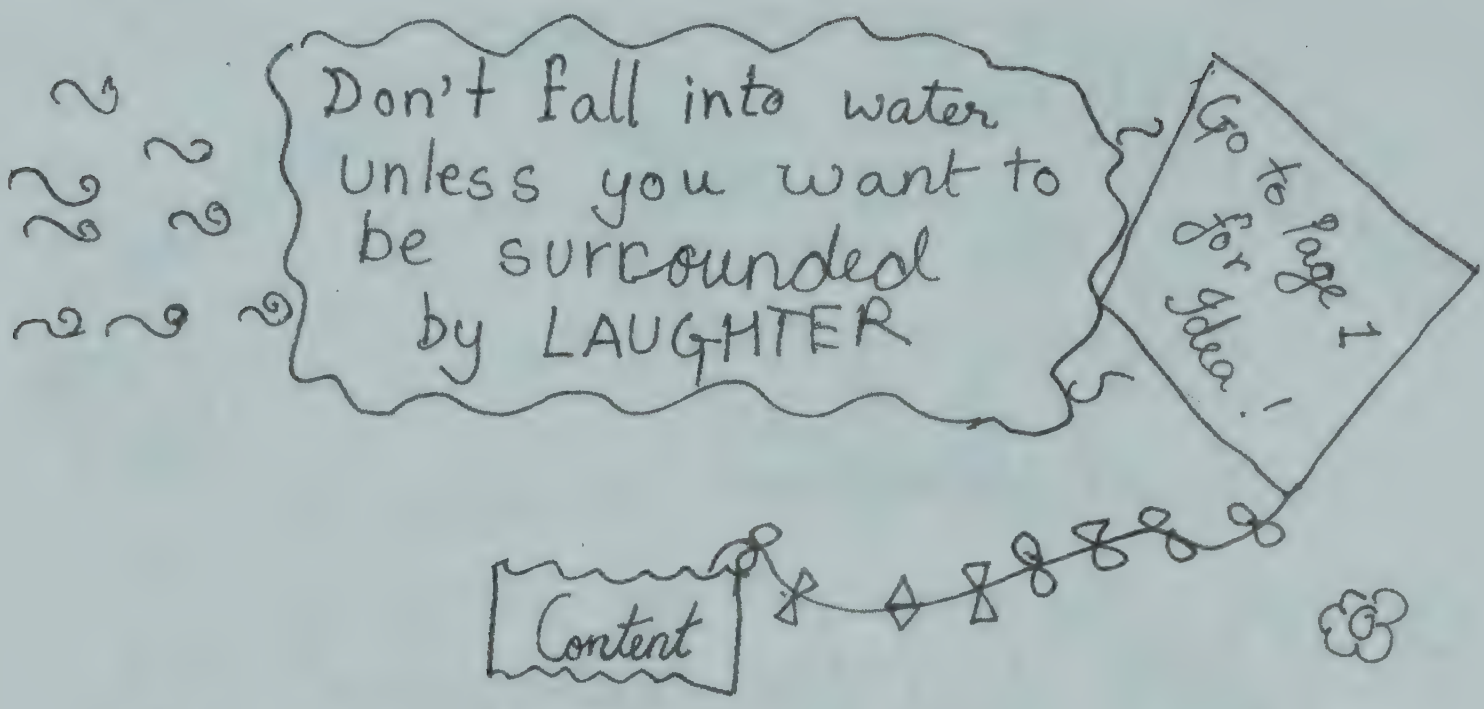
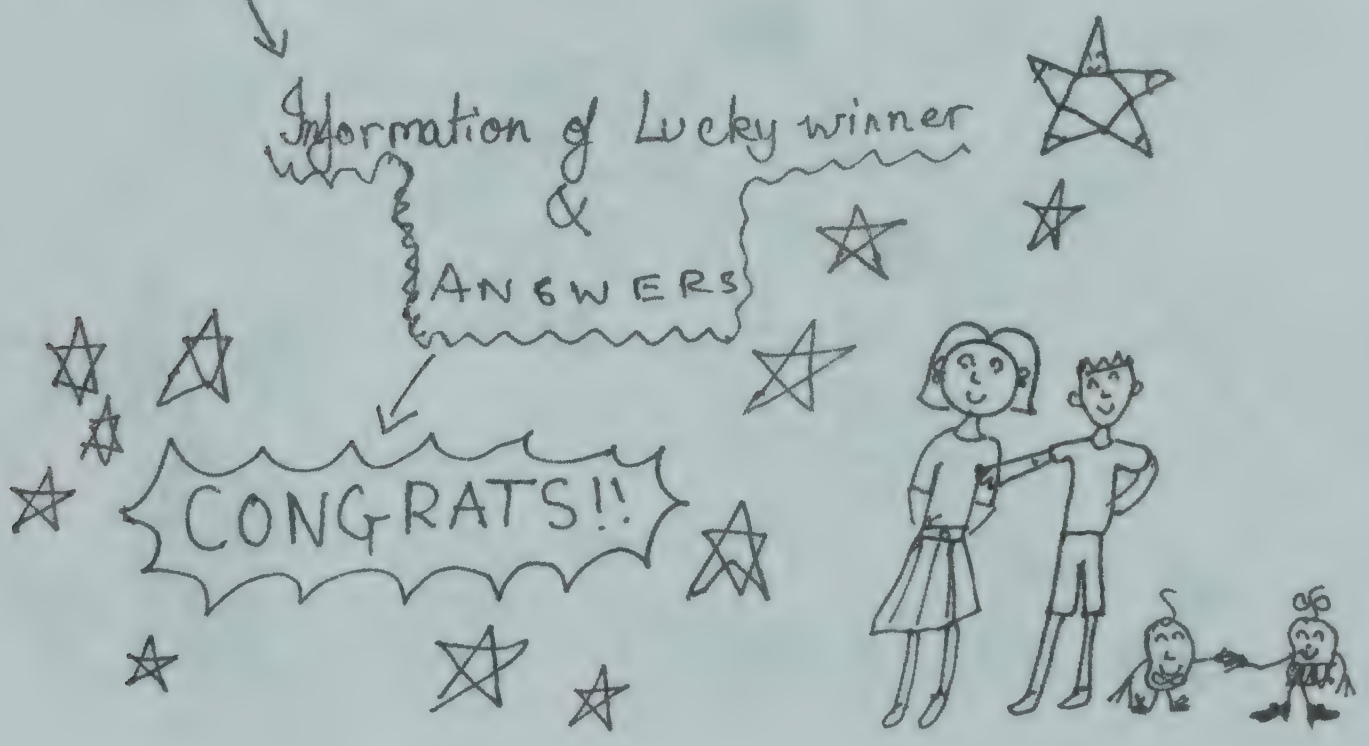


Jokes & The great balancing act..... Pg 1
Things gifted & bought from Auroville.... Pg 2
Where we visited in Auroville ..... Pg 3
{Colour me} (Special guest)..... Pg 4
Interview with special guest Ganesh..... Pg 5
Message Bag ..... Pg 6

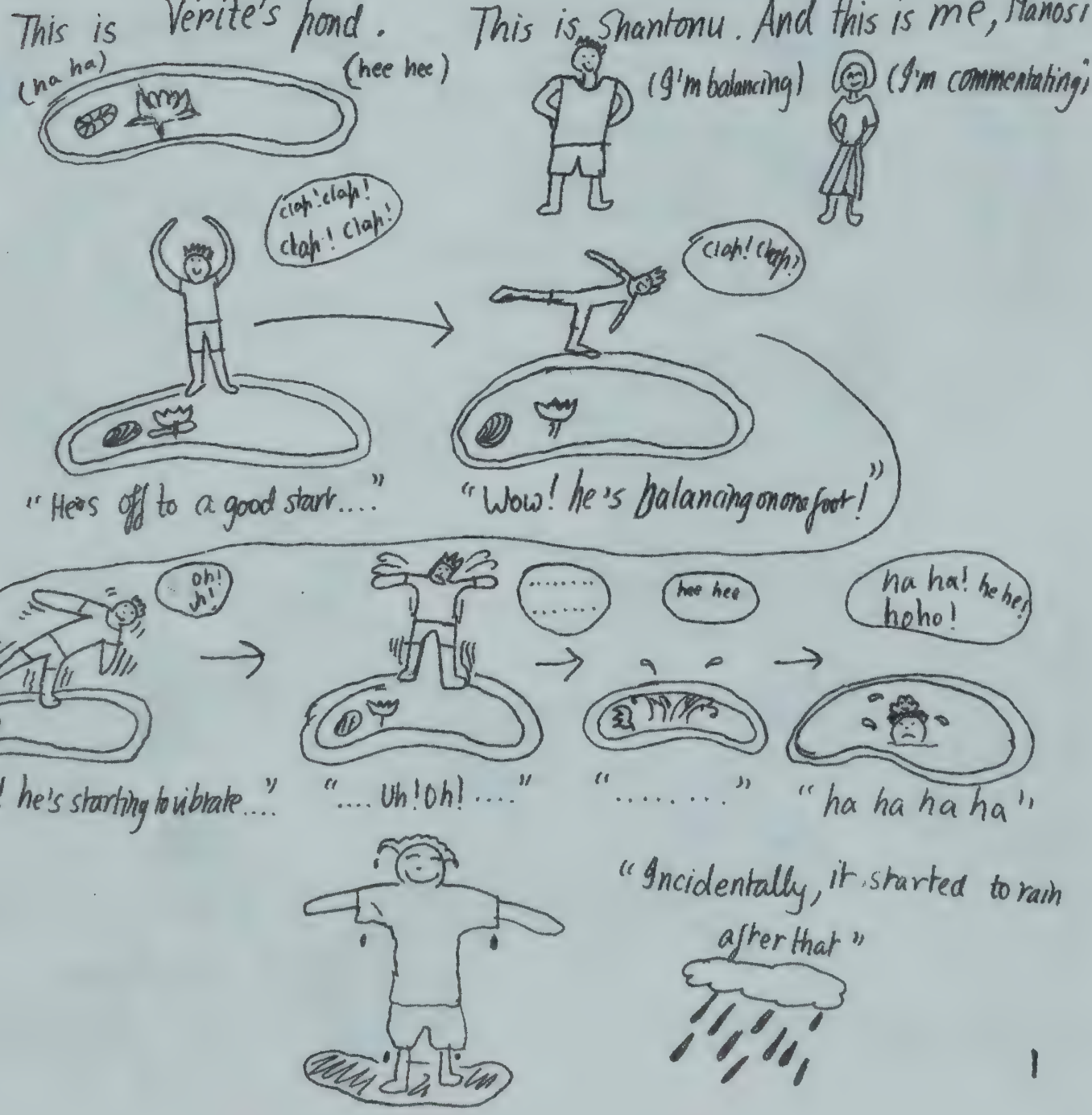


(*Children's Magazine - Our Visit to Auroville* / May & June 2003, Content)

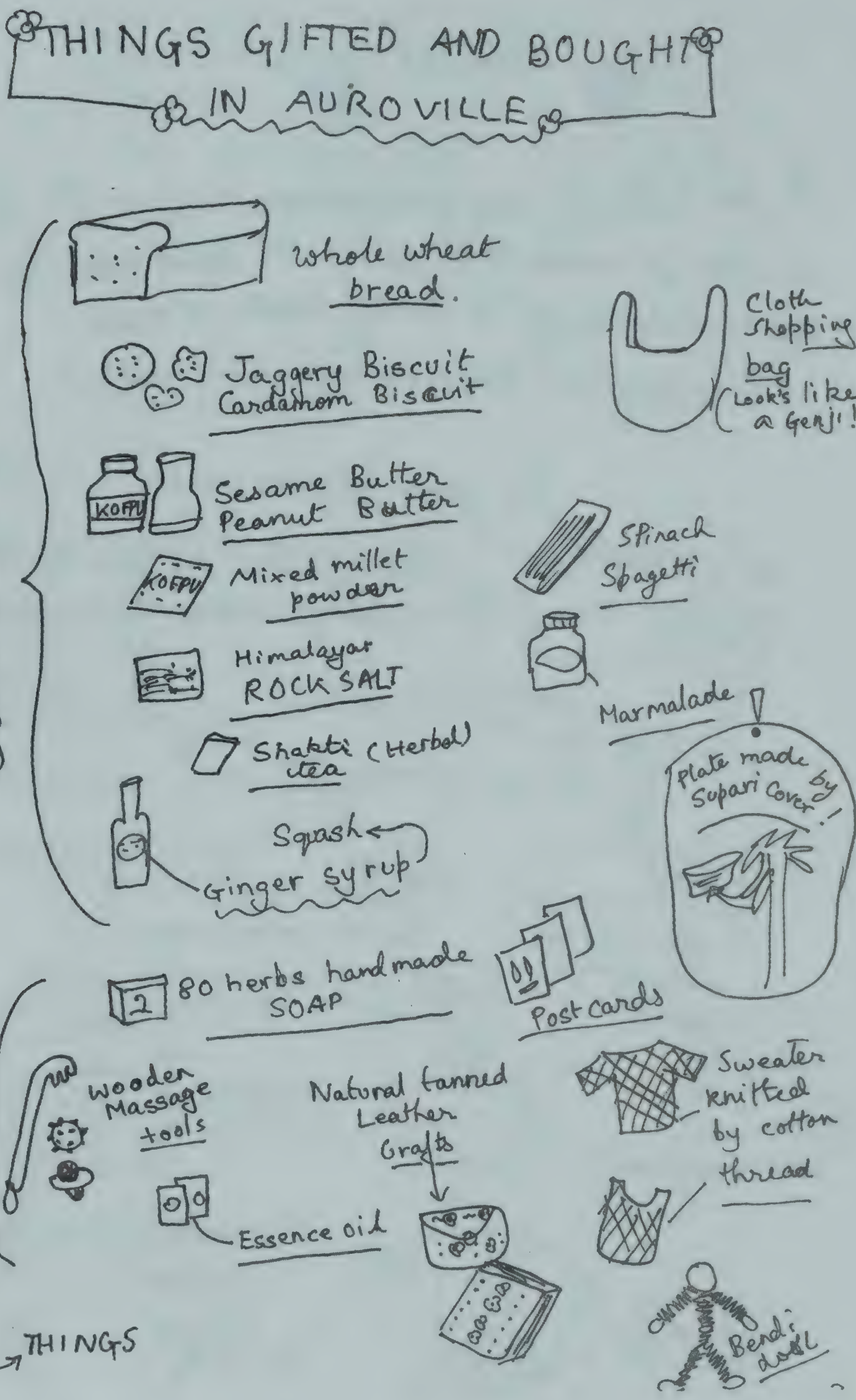
JOKES!

As the Chatterjee family was travelling on the train, G.S asked Mrs Satoko to comment on the journey. She happily replied, "I'm so happy I don't have to cook." He then asked Shantonu who replied, "I'm so happy I don't have to eat my mother's cooking".

The great balancing act!



(*Children's Magazine - Our Visit to Auroville* / May & June 2003, Page 1)



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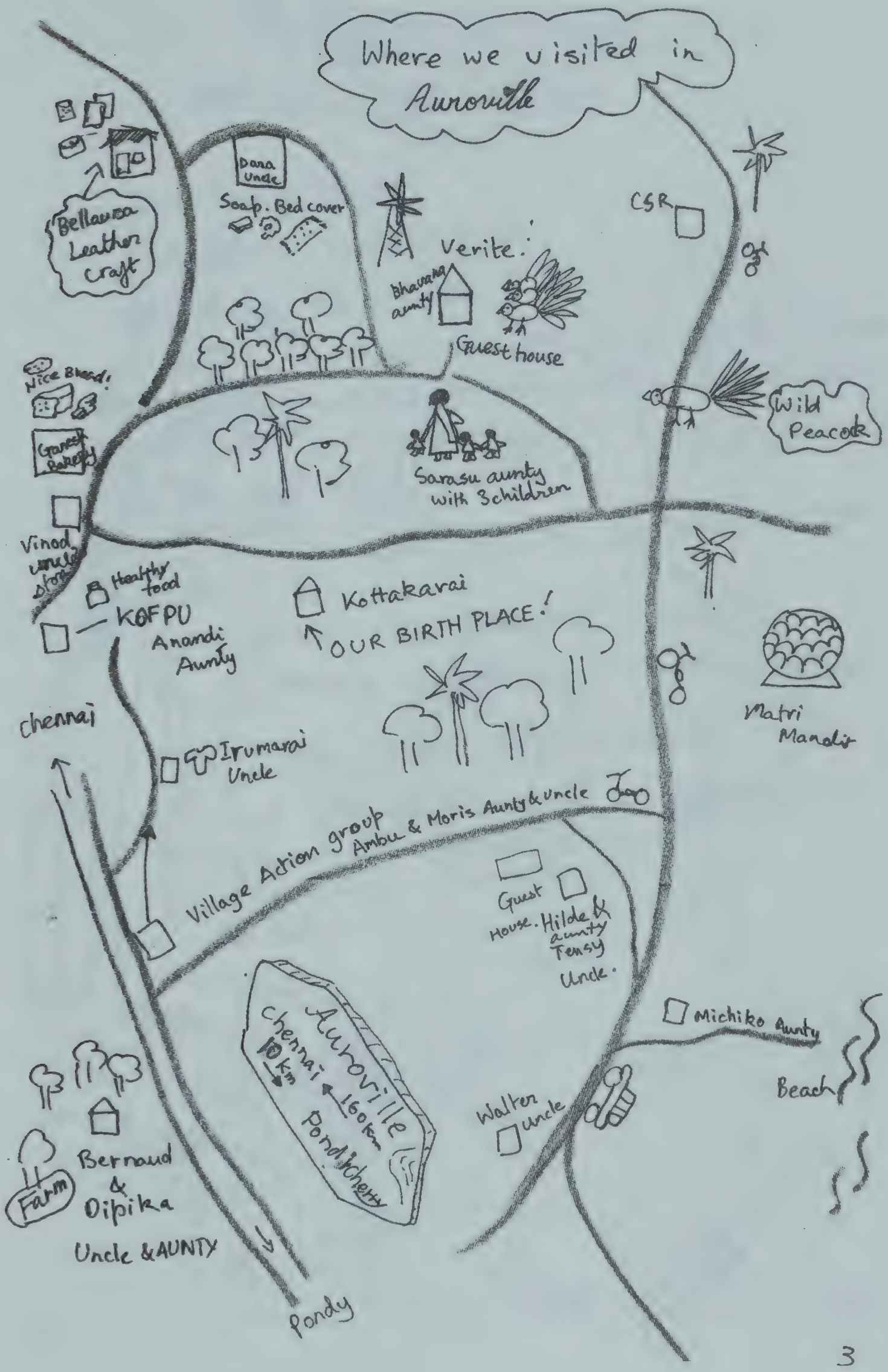

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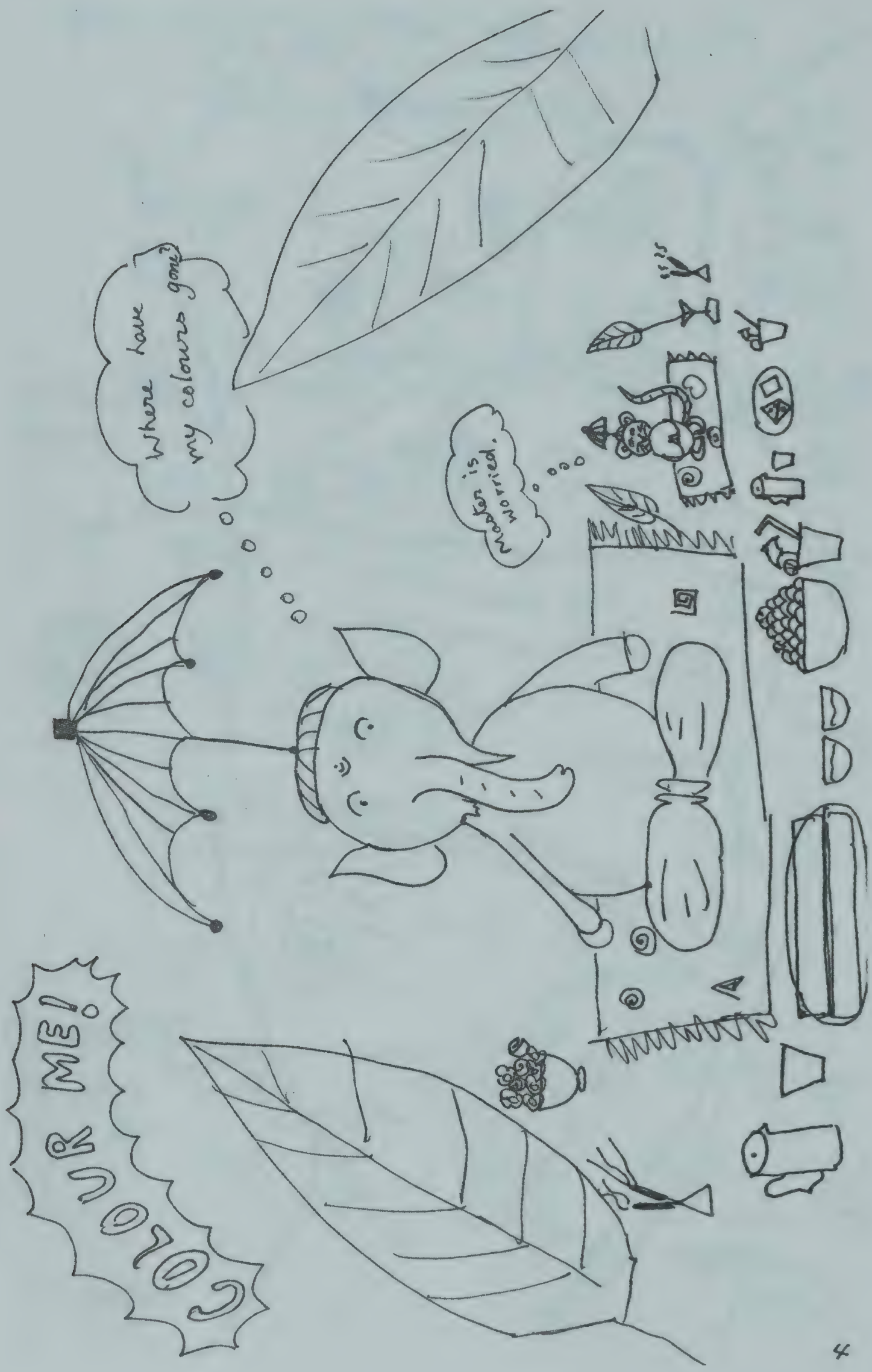


(*Children's Magazine - Our Visit to Auroville* / May & June 2003, **Page 4**)

Interview

with special guest - Ganesh

G.S - Good Morning, Ganesh.

G - Good Morning, Green sprout.

G.S - How do you like Auroville ?

G - I like it very much. Especially Ganesh Bakery. They are making bread, biscuits and modakas of vegetable and meat called "momo" along with chilli vinegar.

G.S - Did you like Verite?

G - It was very interesting. Especially the wind mill, solar panel and kitchen.

G.S - You seem to be very interested in food!

G - Yes, very much ; especially hot, sour and spicy food.

G.S - Anything else you like about Auroville ?

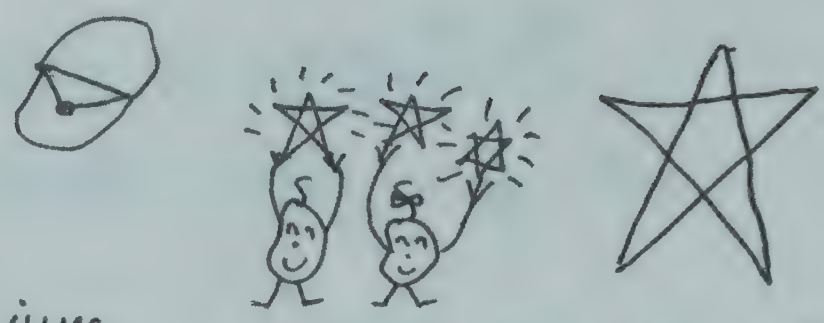
G - Lots and Lots of friends of all nationalities. Especially in and around Kottakarai.

G.S - Thank you for the interview, Ganesh.

G - Welcome.

(*Children's Magazine - Our Visit to Auroville* / May & June 2003, Page 5)

Message Bag



Did you enjoy the issue, OUR TRIP TO AUROVILLE?

Next issue is SPORTS.

OUR WINNER IS Supratik Kundu Age: 11 years
of 'Man Power issue'
He solved it at 18/6/03 at 6: ~~45~~ within 55 seconds only !!!
Thank you.

ANSWERS

A = 4
B = 3
C = 5
D = 2
E = 1

Please give us articles for the issue of SPORTS. We are waiting for them. Send here

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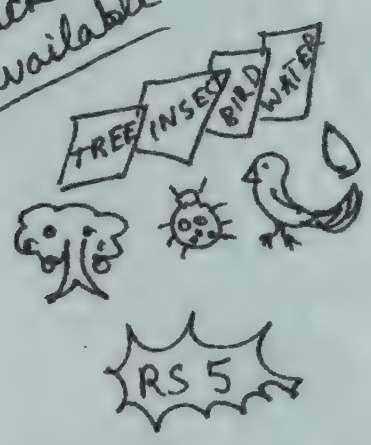
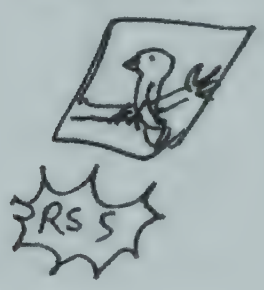


&

My Nature Garden
Book of Birds.



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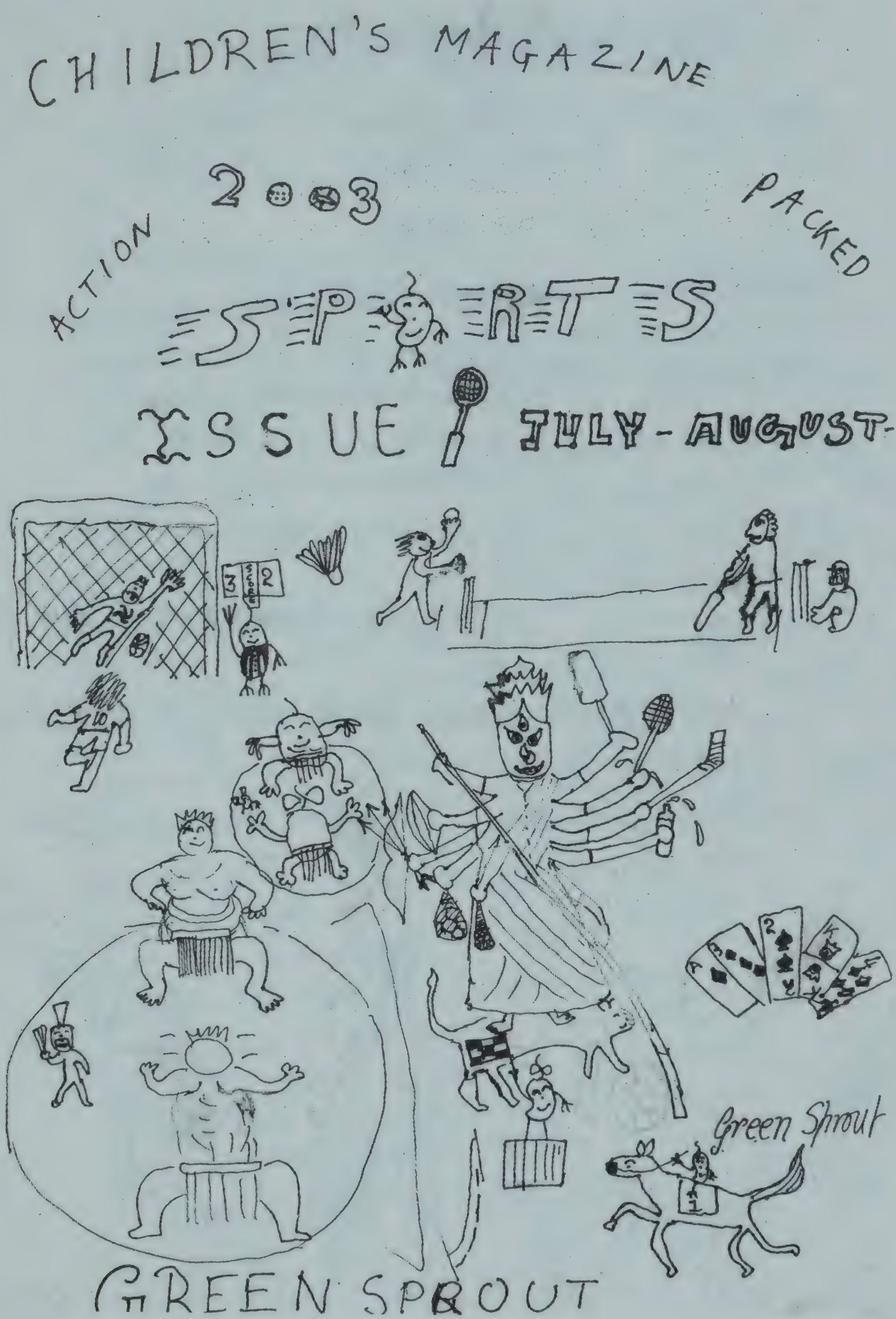


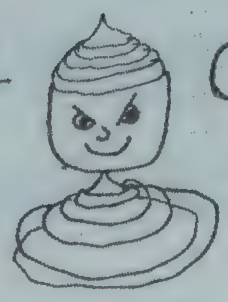
(*Children's Magazine - Sports* / July & August 2003, Cover)

CONTENTS

IF YOU DON'T PLAY CRICKET
YOU'LL BE
STIFF AS A WICKET!

JOKES By Shantonu Pg 1
INVENT HOME MADE GAME Pg 2
BY MANOSI & SHANTONU. TRY IT!
ESSAY. WHY CAN'T GIRLS PLAY WITH BOYS. BY MANOSI Pg 3
COLOUR ME. THE GODS AGAINST DEMONS BY MANOSI. Pg 4
INTO THE WORLD OF BOOKS AND FILMS BY SHANTONU. Pg 5
MESSAGE BAG & INFO. GREEN SPROUT Pg 6

(*Children's Magazine - Sports* / July & August 2003, Content)

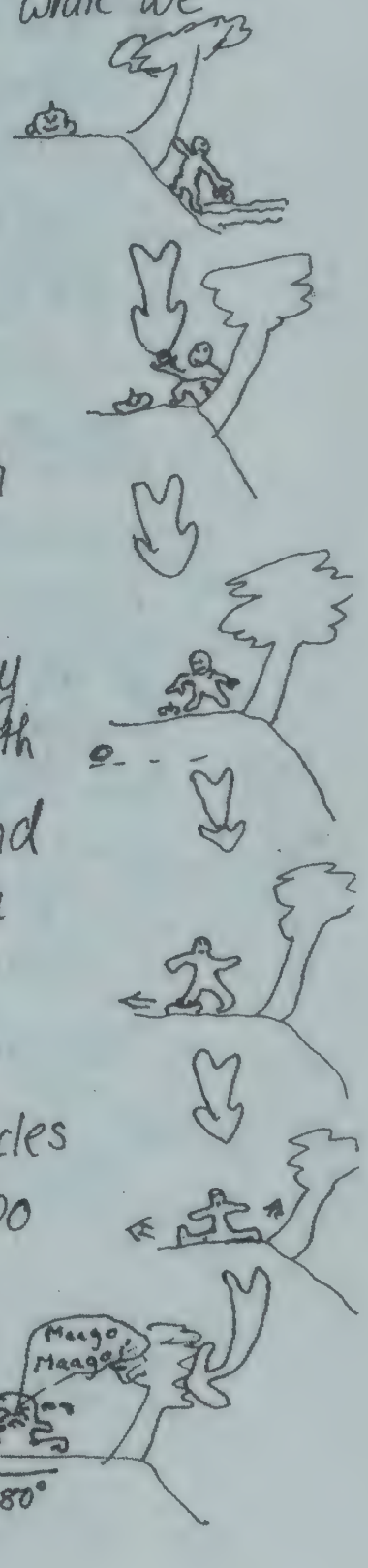
Gobar -  our downfall

Jokes

Everyone must have unpleasant memories about encounters with the dangerous cowdung; (gobar) and we are no exceptions. These incidents took place while we were playing.

Encounter No.1 - Victim: Shakkho Shingho Dey

It was about 5pm on a lovely Saturday evening. Shakko, after considerable toil had managed to rescue the ball from the watery clutches of the pond when this incident took place. The poor fellow could not see the smooth, glistening patch of cowdung just in front of him and unwittingly stepped on it. After stepping on it he performed a great gymnastic feat which would have made any gymnast green with envy. He stretched out both his legs the full 180°! We could not understand why Shakkho had suddenly decided to perform gymastics. The truth dawned on us when, after a few seconds, he started crying, "Maago, Maago" (oh, mother, oh mother). He stretched the thigh muscles so much that he remained injured for two days. After that incident Shakkho dares not to go near cowdung in any form.

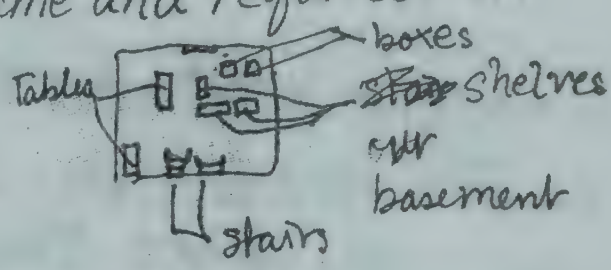


(*Children's Magazine - Sports* / July & August 2003, Page 1)

Home-made Games invented by Nanasi and Shantanu

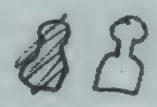
Bomb - Bomb

In this game, the object of the game is to make your opponent~~s~~ out. This ~~a~~ is a fast game and requires a lot of stamina.



Things you need:

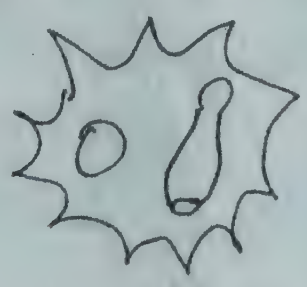
- ☆ two, three 10gm balls.
- ☆ Number of players - 2 or more
- ☆ plastic bats (anything else will do)
- ☆ a big basement.

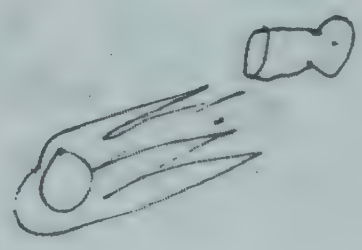


rules

- ☆ no hitting in the first chance
- ☆ no touching the ball except during first chance
- ☆ If you are hit by an opponent's ball, 1 point to him.
- ☆ If you hit yourself, two points to the opponent.
- ☆ Only three five minutes breaks allowed.
- ☆ No getting up on anything.
- ☆ If the ball is stuck, you may lift it up and start.
- ☆ Try not to break anything!
- ☆ Penalty if you hit an opponent with your bat.

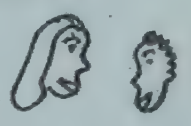
Happy BOMBING!





(*Children's Magazine - Sports* / July & August 2003, Page 2)

ESSAY WHY CAN'T GIRLS PLAY WITH BOYS? ☆



BY Manosi

What is the difference between boys & Girls, only their Gender is different. But why can't girls play with boys, do you think because they get hurt easily? Well the answer to that is NO! Girls can play with boys only they don't like to play boys games. But I play with boys, My brother treats me like a boy and I play with him in the Field. So if you try you can play with boys. Before I was being left out but now I am the only one to be playing with Boys! Try, Go ahead ENJOY!

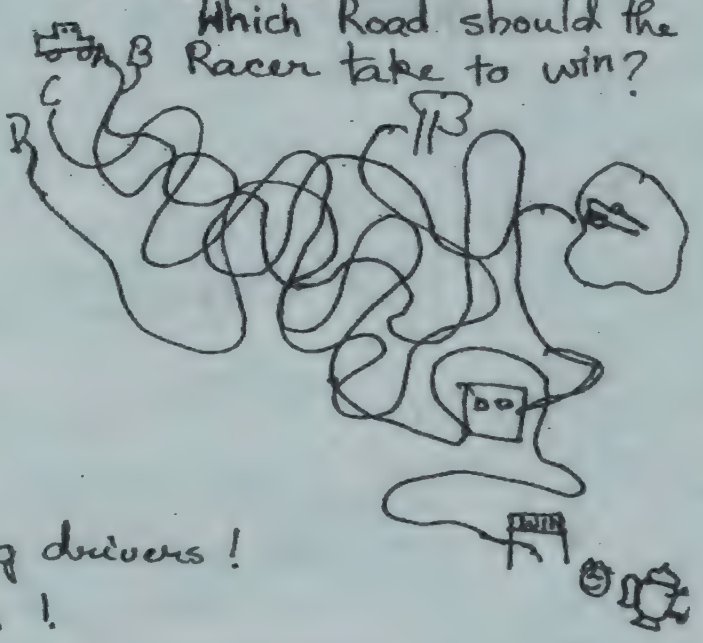
☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

SURPRISE GAME & QUIZ G.L

Match the following

(A) Puck	(1) Foot ball
(B) Dwain Chambers	(2) Cricket
(C) Sand bar	(3) baseball
(D) Soft ball	(4) Golf
(E) Ronaldo	(5) Athletics
(F) Maiden over	(6) Tennis
(G) Duece	(7) Hockey

Which Road should the Racer take to win?

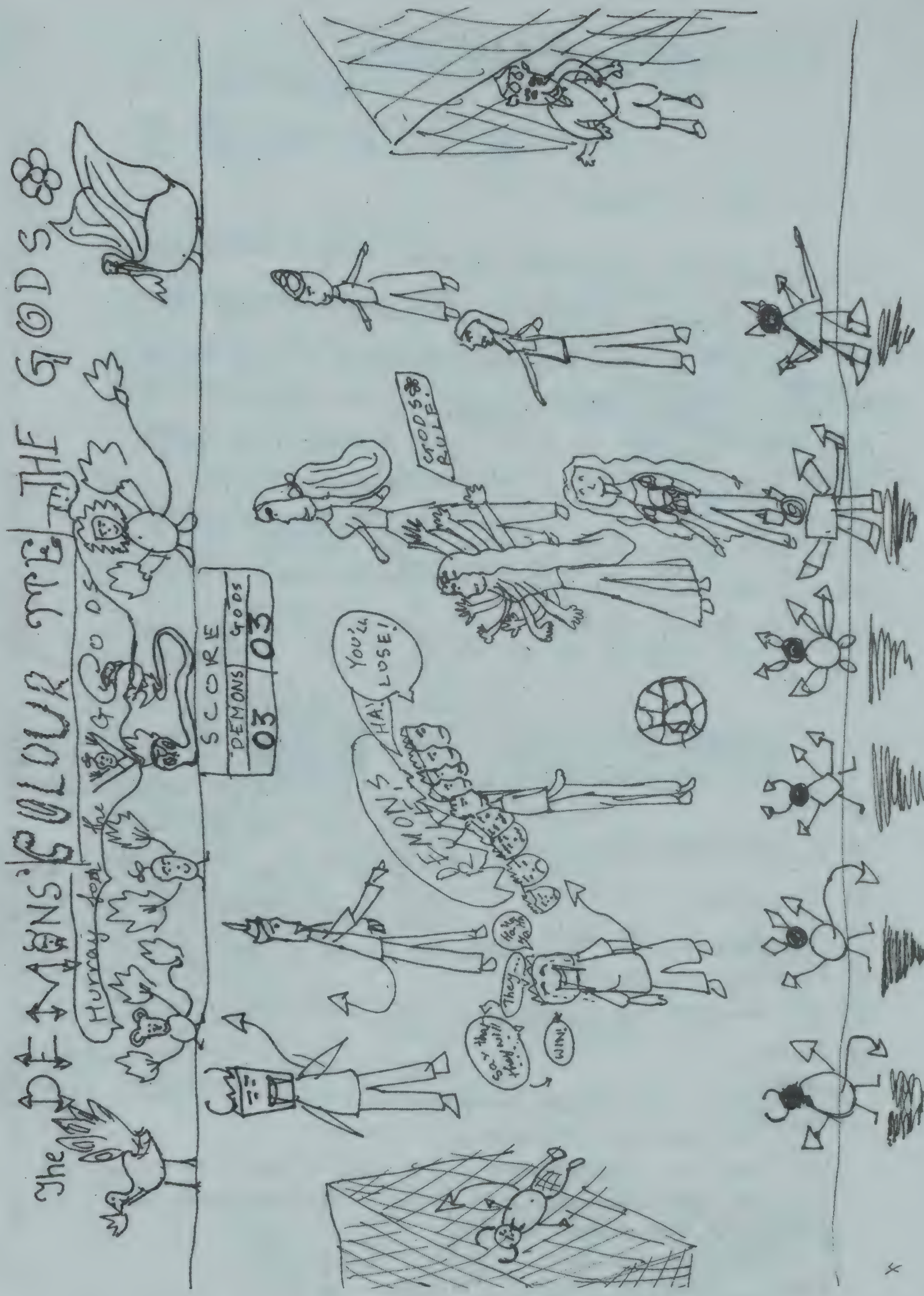


Write two Well known Racing drivers!
" ten Famous Cricketers!
" One " Golf player.

How do you think a golf ball is
- Ping pong ball.
- Soft.
- Hard.
- very hard.

SEE MESSAGE BAG FOR MORE INFO OF GAME

3



(*Children's Magazine - Sports* / July & August 2003, Page 4)

Into the World of Books and Films.

Sunny Days - Sunil Gavaskar's biography, it is worth reading as it tells first hand about his life, is full of handy tips for aspiring cricketers and is packed with humour. We get to see his point of view and opinions about cricket; past, present and the future. Filled with photographs, it is a must for those crazy about Sunil Gavaskar.

Bend it Like Bekham - The story of a young girl in her teens who wants to play football like her idol, Beckham. But, coming from an orthodox Indian family, Young ~~Jass~~ Jas binder's (the girl) hopes of becoming an international footballer are thin, as her whole family forbids her running around "half naked" in front of boys and men. But she managed to join a girls' football club. But all was not well, even then. She still had to face the threats from family, who strongly opposes her playing football and friendship, which is like a complicated web. Finally she manages to break free; but is she successful or not? Find out!

Remember The Titans - A true story of an American School where a black man replaces the white coach of the school's rugby team. There are many protests but they are overcome and the school has a 'mixed' team. They go on to win the championship, but lose their captain in a tragic car accident. It is a story of immense courage, humour and tragedy.

5

GREEN SPROUT

Message bag & INFO

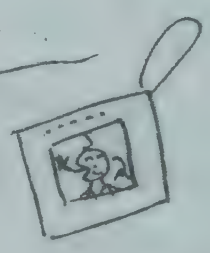
Surprised aren't you. Well if you want to win a prize hurry! Contest date ending at ~~31 Dec.~~ 20. Jan.

Did you like this Episode / OR ISSUE?

I enjoyed it! Next issue is TRAIN HAWKERS

PRIZE FOR SG

A SPECIAL GREEN SPROUT BAG ... ITS NO Ordinary bag ITS A STAMP BAG WITH A Special offer of your name written on it!



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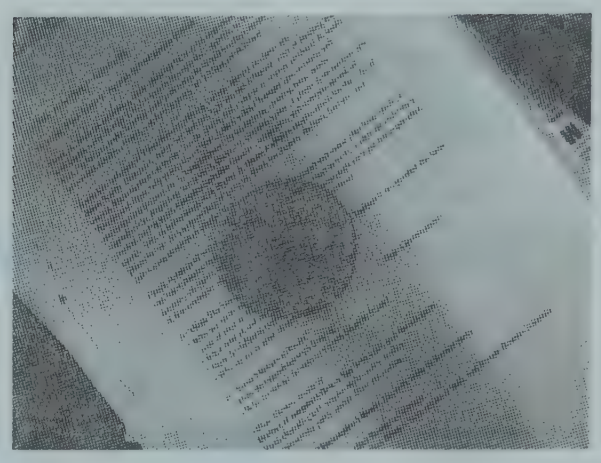
Recommended Reading



Along with the books mentioned in the chapter, From the Ganapati Bookshelf, in Part I, the following sources may be useful in conducting home-based activities.

NGA (National Gardening Association, USA)
Provides a good introduction to gardening and offers information on gardening skills:

- **www.garden.org/edu**

Green Teacher (Canada)
Ideas and examples on environmental education in schools and around the community:

- **www.greenteacher.com**

Foxfire (USA)
One of pioneer of connecting school learning process with community. The method and process of collecting local traditional knowledge done by high school students is worth knowing about:

- **www.foxfire.org**

Journey to Forever (Japan)
Information and case studies on alternative technologies from all over the world:

- **http://journeytoforever.org/jp**

Permaculture International (Australia and many other countries)
Lists Permaculture courses and has a Permaculture club for children called Food Foresters:

- **www.permacultureinternational.org**

The Edward de Bono Foundation (Ireland)
Information on creative thinking:

- **www.edwarddebonofoundation.com**

Skipping Stones (USA)
Publishes an attractive quarterly 'multicultural' children's magazine:
- **www.skippingstone.org**

LEAF (Learning and Ecological Activities Foundation for Children, Japan)
Organizes an Eco-Panel exhibition once a year; and you can participate in this by sending in your projects:
- **http://leaf.or.jp**

Daily Dump (India)
Promotes composting at home and school by providing 'how to' information and selling innovative and attractive composting tools:
- **www.dailydump.org**

Mustard Seeds (India)
Another example of a home-based community project, runs a home library and organizes various children's activities including a lot of kid-craft ideas:
- **kodomocraft.blogspot.com / dalbhat.blogspot.com**

About Earthcare Books :

We are a publisher and distributor focusing on environmental issues, justice and an alternative path of progress in harmony with nature and fellow humans.

The areas we emphasize are:

- Care of natural 'resources' (soil, water, forests, biodiversity...)
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'The Green Sprout Journey' is the story of a mother trying to stimulate environmental awareness in her two children. Satoko Chatterjee launched on this journey and pleasantly discovered that when she initiated ecological activities within the space of her home, her children came up with their own ideas on how one could go about doing them. Some were very rewarding, and some less so. All in all, the children received a great foundation to become ecologically conscious citizens, so vitally needed in our times.

The book outlines in detail the various activities Satoko and her children immersed themselves in: composting and organic gardening; clay jewellery and other eco-crafts; book-making, soap making, homemade solar cooker, etc.; and occasional 'discovery' trips in their locality.

This is a useful resource book for anyone desiring to initiate meaningful ecological activities within the home, or at the school level. While it offers interesting ideas and information for parents and teachers who want to make environmental education an important part of the upbringing of children, the book can also be independently read and enjoyed.

Satoko Chatterjee was born in Japan and has been living in India after her marriage. She came to Chandernagore, in West Bengal, India after having lived in Auroville in South India and Cambodia with her husband, Ardhendu Chatterjee and their two children, Shantonu and Manosi. She has been involved for the last ten years with ENRE (Ecology and Natural Resource Education), a project of DRCSC (Development Research Communication and Services Centre). Satoko also teaches Japanese in Kolkata.

Price : Rs 250

ISBN 81-85861-37-4

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